WEST Search History

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DATE: Wednesday, June 09, 2004

Hide?	Set Name	Query	Hit Count
		DB=USPT,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR	
☐	L7	L3 and (dodecyl adj1 sulfate)	21
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☐	L5	L3 ddab	412
☐	L4	L3 and dotac	0
☐	L3	L1 and ($ionic adj3 surfactant$)	103
☐	L2	L1 and (topical$ or transdermal$)	56
☐	L1	reverse adj1 micelle$	339

END OF SEARCH HISTORY

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[redacted]

L2: Entry 16 of 56 File: USPT Nov 26, 2002

US-PAT-NO: 6485706
DOCUMENT-IDENTIFIER: US 6485706 B1

TITLE: Formulations comprising dehydrated particles of pharma-ceutical agents and process for preparing the same

DATE-ISSUED: November 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
McCoy; Randall	McConnellsburg	PA		
Libbey, III; Miles Augustus	Pennington	NJ		
Liu; Jle	Scotch Plains	NJ		
Williams, III; Robert O.	Austin	TX		

US-CL-CURRENT: 424/45; 424/46, 424/49, 424/491, 424/54, 514/2, 514/3

CLAIMS:

We claim:

1. A formulation for systemic delivery of insulin to a patient through the buccal mucosa, the formulation comprising: a suspension of dehydrated solid particles in a delivery medium wherein the solid particles comprise a dehydration product of the insulin and an orally effective nonsteroidal membrane-permeation enhancer, the delivery medium comprising a fluid, the dehydrated solid particles being suspended in the delivery medium, and adapted for spray delivery of the dehydrated solid particles to the buccal mucosa.

2. The formulation of claim 1, said dehydrated solid particles further comprising a surfactant.

3. The formulation of claim 1 wherein a substantial percentage of the solid particles are greater than at least about 10 microns in diameter.

4. The formulation of claim 1, said delivery medium comprising a nonaqueous propellant for aerosol delivery of the dehydrated solid particles to the buccal mucosa.

5. The formulation of claim 2, said dehydrated solid particles comprising a dehydration product of a substantially homogeneous mixture of insulin, at least one buffer, at least one surfactant, and the membrane-permeation enhancer.

6. The formulation of claim 2 in which the surfactant is selected from a group consisting of sorbitan monooleate, sorbitan monolaurate, polyoxyethylene sorbitan monolaurate, polyoxyethylene sorbitan monooleate, polyoxyetilylene ethers, dioctyl sodium sulfosuccinate, and

polyoxyethylene block copolymers.

7. The formulation of claim 1 adapted for aerosol delivery to the buccal mucosa wherein the insulin is substantially absorbed without reaching the pulmonary region.

8. The formulation of claim 1, the delivery medium comprising a non-aqueous pharmaceutically acceptable propellant and a co-solvent selected from the group consisting of ethanol, glycerol, propylene glycol, sorbitol, vitamin E, and polyvinylpyrrolidone.

9. The formulation of claim 2 comprising about 0.01 to 20% by weight surfactant; about 0.1 to 80% by weight membrane-permeation enhancer; and the delivery medium comprises about 50 to 99% by weight propellant and about 5 to 20% by weight ethanol.

10. The formulation of claim 2 in which the dehydrated solid particles comprise a freeze-dried dehydration product of a mixture consisting essentially of the insulin in buffer, a surfactant, and the non-steroidal membrane-permeation enhancer.

11. The formulation of claim 1 comprising a delivery medium further comprising a non-aqueous pharmaceutically-acceptable propellant, an alcoholic cosolvent and the dehydrated insulin particles further comprising a non-steroidal permeation enhancer and a pharmaceutically acceptable buffer.

12. A process for preparing a formulation for delivering a insulin to the buccal mucosa of a patient, the process comprising (a) obtaining a quantity of insulin; (b) dissolving the insulin in a solution optionally containing a pharmaceutically acceptable buffet; (c) mixing the solution with a non-steroidal membrane-permeation enhancer and optionally with a pharmaceutically acceptable surfactant; (d) drying the solution of step (c) to form solid dehydrated particles; and (e) placing the solid dehydrated particles in a fluid to form a suspension for delivery of the solid particles to the patient's buccal mucosa for systemic absorption.

13. The process of claim 12, wherein the fluid comprises a pharmaceutically acceptable propellant and optionally ethanol.

14. A The process of claim 12, in which the solid particles are not pulverized and a substantial percentage of the particles are sized at greater than 10 microns.

15. The process of claim 12, wherein the step of drying comprises freeze-drying at temperatures in the range of -10.degree. C. to -40.degree. C.

16. The formulation of claim 5 in which the non-steroidal membrane-permeation enhancer is selected from a group consisting of sodium lauryl sulfate, sodium laurate, palmitoyl carnitin, Laureth-9, phosphatidylcholine, cyclodextrin, oleic acid, lauric acid, acylcarnitines, benz-alkonium chloride, benzethonium chloride, 3-3-cholamidopropyl)-dimethylammonio-1-propane-sulfonate, N,N-bis-(3-D-gluconamido-propyl)-cholamid), chlorobutanol, octoxynol-9, benzyl alcohol.

17. A method for systemic buccal administration of insulin to a patient in need of such treatment comprising: administering solid particles in a pharmaceutically acceptable aerosol to the buccal mucosa, wherein the particles are at least about 10 .mu.m about 500 .mu.m in diameter and comprise a dehydration product of insulin and a non-steroidal buccal permeation enhancer and

optionally further comprise a surfactant and pharmaceutically acceptable buffer.

18. The formulation of claim 1 wherein a substantial percentage of the solid-phase particles are sized greater than about 10 .mu.m and less than about 500 .mu.m in diameter.

19. The formulation of claim 1 wherein a substantial percentage of the solid-phase particles are sized greater than about 10 .mu.m and less than about 200 .mu.m in diameter.

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L2: Entry 19 of 56 File: USPT Aug 6, 2002

DOCUMENT-IDENTIFIER: US 6429200 B1
TITLE: Reverse micelles for delivery of nucleic acids

Abstract Text (1):
A complex is described for delivery to a cell comprising inserting a nucleic acid into a reverse micelle. The reverse micelle has the property to compact the nucleic acid for easier delivery. Other molecules are used to interact with the nucleic acid--micelle complex to further enhance delivery such as a surfactant having a disulfide bond.

Brief Summary Text (4):
The invention generally relates to micellar systems for use in biologic systems. More particularly, a process is provided for the use of reverse micelles for the delivery of nucleic acids and genes to cells.

Brief Summary Text (12):
These cleavable surfactants within micelles are designed to decompose on exposure to strong acid, ultraviolet light, alkali, and heat. These conditions are very harsh and are not compatible with retention of biologic activity of biologic compounds such as proteins or nucleic acids. Thus, biologically active compounds have not been purified using reverse micelles containing cleavable surfactants.

Brief Summary Text (23):
Micelles and Reverse Micelles

Brief Summary Text (24):
Reverse micelles (water in oil microemulsions) are widely used as a host for biomolecules. Examples exist of both recovery of extracelular proteins from a culture broth and recovery of intracellular proteins; Although widely used, recovery of the biomolecules is difficult due to the stability of the formed micelle and due to incomplete recovery during the extraction process. Similarly, purification of DNA or other biomolecules from endotoxin and plasma is difficult to accomplish. One common method employing Triton results in incomplete separation of the DNA or biomolecules from the emulsion.

Brief Summary Text (25):
Reverse micelles have been widely used as a host for enzymatic reactions to take place. In many examples, enzymatic activity has been shown to increase with the used in a micelle, and has allowed enzymatic reactions to be conducted on water insoluble substrates. Additionally, enzymatic activity of whole cells entrapped in reverse micelles has been investigated (Gajar, L., Singh, A., Dubey, R. S., Srivastava, R. C. Applied Biochemistry and Biotechnology, 66, 159-172, 1997). The cationic surfactant cetyl pyridinuim chloride was utilized to entrap Baker's yeast and Brewer's yeast inside a reverse micelle.

Brief Summary Text (27):
Micelles have been utilized for drug delivery. For example, an AB block copolymer has been investigated for the micellar delivery of hydrophobic drugs. Transport and metabolism of thymidine analogues has been investigated via intestinal absorption utilizing a micellar solution of sodium glycocholate. Additionally, several

examples of micelle use in transdermal applications have appeared. For example, sucrose laurate has been utilized for topical preparations of cyclosporin A.

Brief Summary Text (31):
The present invention provides for the transfer of polynucleotides, and biologically active compounds into parenchymal cells within tissues in situ and in vivo, utilizing reverse micelles delivered intravasculary, intrarterially, intravenous, orally, intraduodenaly, via the jejunum (or ileum or colon), rectally, transdermally, subcutaneously, intramuscularly, intraperitoneally, intraparenterally, via direct injections into tissues such as the liver, lung, heart, muscle, spleen, pancreas, brain (including intraventricular), spmial cord, ganglion, lymph nodes, lymphatic system adipose tissues, thyroid tissue, adrenal glands, kidneys, prostate, blood cells, bone marrow cells, cancer cells, tumors, eye retina, via the bile duct, or via mucosal membranes such as in the mouth, nose, throat, vagina or rectum or into ducts of the salivary or other exocrine glands.

Brief Summary Text (32):
By "delivered" we mean that the polynucleotide becomes associated with the cell. The polynucleotide can be on the membrane of the cell or inside the cytoplasm, nucleus, or other organelle of the cell. The process of delivering a polynucleotide to a cell has also been commonly termed "transfection" or the process of "transfecting" and also it has been termed "transformation". The polynucleotide could be used to produce a change in a cell that can be therapeutic. The delivery of polynucleotides or genetic material for therapeutic purposes is commonly called "gene therapy". The polynucleotides or genetic material being delivered are generally mixed with transfection reagents prior to delivery. A biologically active compound is a compound having the potential to react with biological components. Pharmaceuticals, proteins, peptides, hormones, cytokines, antigens and nucleic acids are examples of biologically active compounds. The reverse micelle may be negatively-charged, zwitterionic, or neutral. Additionally, the present invention provides for the purification of biomolecules by solubilizing the biomolecule into a cleavable reverse micelle and then cleaving the micelle under conditions that will not destroy the biological activity of the biomolecule. These processes can be used for transferring nucleic acids or biomolecules into cells or an organism such as for drug delivery, or may also be used for analytical methods.

Brief Summary Text (33):
The process of utilizing cleavable reverse micelles for the purification of biomolecules has advantages over current methodology. Isolation of the biomolecule will be enhanced by cleaving the reverse micelle. This will separate the polar group from the non-polar group on the surfactant and therefore eliminate the formation of emulsions and therefore simplify the isolation process. Cleavage conditions will be such that the biological activity of the biomolecule is not destroyed.

Brief Summary Text (34):
Another advantage of the invention is the use of reverse micelles for gene delivery. The reverse micelle can compact the polynucleotide, a critical step for gene delivery, especially in vivo. The micelle containing the compacted polynucleotide can then be utilized as a reaction vesicle in which additional compounds can be added to the DNA. For example, a polycation could be added to the polynucleotide/reverse micelle solution to form a polycation/polynucleotide complex within the reverse micelle. Additionally, the polynucleotide/reverse micelle system is used as a vesicle for template polymerization of the DNA or caging of the DNA in which the polycation is crosslinked. A variety of chemical reactions can take place with in the vesicle preferably without modifying the nucleic acid. The polynucleotide/reverse micelle system also has advantages in that the micelle may be cleaved under physiological conditions involved along the "transfection pathway." The surfactant can be altered so that micellular cleavage occurs at different point along this pathway. By "transfection pathway" we mean any point at

which the polynucleotide/reverse micelle system is introduced to a solution (i.e., blood, serum) that contains parenchymal cells, or to the cells (for example the skin or mucousal membranes) through the inclusion of the polynucleotide into the nucleus of the parenchymal cell.

Brief Summary Text (35):
In a preferred embodiment, described is a complex for delivery to a cell, comprising: inserting a nucleic acid into a reverse micelle. A compacting agent may be added to the complex as well as a delivery enhancing ligand or compound.

Brief Summary Text (36):
In a preferred embodiment, a process for delivering a complex to a cell is described, comprising inserting a nucleic acid into a reverse micelle.

Brief Summary Text (37):
In a preferred embodiment, the nucleic acid or biomolecule is solubilized into a reverse micelle with an internal water volume for delivery of the biomolecule to parenchymal cells. A compound can be added to the nucleic acid/micelle mixture. Such compounds include polymers such as polyions (polycations such as spermine, polyamines, polylysine, polyethylimine (PEI), and polyanions), proteins, peptides, enzymes, hydrophobic compounds, and amphipathic compounds (to form a second layer around the micelle). Such compounds include compounds that compact the DNA, provide a cell transfer enhancing ligand or provide another layer to the micelle.

Brief Summary Text (39):
Another preferred embodiment provides a method of making a compound for delivery to a cell, comprising: adding one or more compounds to the nucleic acid or biomolecule/reverse micelle complex prior to delivery to the cell, thereby providing a deliverable complex. For example, another surfactant or a polyion might be added to the complex. The cell can be a prokaryote or eukaryote and can be a plant, animal or mammalian cell.

Brief Summary Text (41):
In another preferred embodiment, the parenchymal cell is solubilized within a reverse micelle. A reverse micelle containing a polynucleotide would be added to the parenchymal cell containing reverse micelle. After an appropriate amount of time, the parenchymal cell would be purified, and delivered to a mammal.

Brief Summary Text (44):
Procedure 2. Mxing of biomolecule into a solution containing a reverse micelle with agitation or sonication.

Brief Summary Text (45):
Procedure 3. a) mixing the biomolecule into an aqueous solution b) then extracting the aqueous solution containing the biomolecule with a hydrocarbon or halohydrocarbon containing a reverse micelle and separating the phases.

Brief Summary Text (46):
In another preferred embodiment, the-biomolecule is purified comprising a step in which a reverse micelle is destroyed.

Brief Summary Text (48):
Procedure 1. a) mixing of the biomolecule into an aqueous solution b) then mixing the aqueous solution containing the biomolecule with a hydrocarbon or halohydrocarbon containing a surfactant with agitation or sonication c) cleaving the reverse micelle d) extract the biomolecule

Brief Summary Text (49):
Procedure 2. a) mixing of biomolecule into a solution containing a reverse micelle with agitation or sonication. b) cleaving the reverse micelle c) extract the

biomolecule

Brief Summary Text (50):
Procedure 3. a) mixing the biomolecule into an aqueous solution b) then extracting the aqueous solution containing the biomolecule with a hydrocarbon or halohydrocarbon containing a reverse micelle and separating the phases. c) cleaving the reverse micelle d) extract the biomolecule

Brief Summary Text (59):
A reverse micelle is destroyed when the micelle no longer exists and the monophase no longer exists. A reverse micelle is destroyed when the micelle is disrupted. In a preferred embodiment the reverse micelle is destroyed by chemically modifying the surfactant so that water in oil emulsion is destroyed and the phases separate. A destructible reverse micelle is a reverse micelle that can be destroyed such that the water in oil emulsion is destroyed and the phases separate. A destructible reverse micelle can undergo a biological, chemical, or biochemical reaction such that the reverse micelle is destroyed. Biological, chemical, or biochemical reactions involve the formation or cleavage of ionic and/or covalent bonds. In a preferred embodiment the destructible reverse micelle contains a surfactant that is cleavable, destroyable, or chemically modifiable.The surfactant can be a disulfide of the general formula A-S-S-B, in which chemical group A is a hydrophobic group and chemical group B is a hydrophilic group.

Brief Summary Text (85):
Transdermal refers to application to mammal skin in which drug delivery occurs by crossing the dermal layer.

Detailed Description Text (48):
The pDNA in reverse micelles of up to W.sub.0 =4 is condensed. Additionally, some level of condensation is shown for micelles up to W.sub.0 =16.

Detailed Description Text (50):
Determination of Rhodamine Labeled DNA Condensation in a Reverse Micelle.

Detailed Description Text (55):
pDNA Condensation in Reverse Micelles

Detailed Description Text (59):
The fluorescense data indicates a relatively weak affect of Rh-labeled pDNA dilution by unlabeled pDNA. On the other hand, in the samples containing spermidine, a strong effect of the Rh-pDNA dilution by unlabeled DNA is shown. In reverse micelles, the pDNA condensation starts from monomolecular condensation and therefore show little effect by the dilution protocol. However, in the spermidine containing systems (non-micellular) the strong effect indicates that condensation is multimolecular.

Detailed Description Text (73):
PCILuc DNA/Polycation Interaction in a Reverse Micelle.

Detailed Description Text (77):
The results from the fluorescence study indicate that pDNA in reverse micelles can interact with PLL also in reverse micelles.

Detailed Description Text (83):
The results indicate that the pDNA-PLL complex can be partly extracted from reverse micelles after the PLL has been crosslinked with DTBP. The pDNA in the extracted complexes is compacted because it does not interact with the fluorescent intercolator TO6.

Detailed Description Text (85):

PCILuc DNA/Polyethylenimine Complexes in Reverse Micelles.

Other Reference Publication (6):
Bru, R. Et al., "Trypsin-SBTI Interaction in Reverse Micelles." Federation of European Biochemical Societies Apr. 1991; vol. 282, No. 1; 170-174.

Other Reference Publication (10):
Creagh, A. L. Et al., "Structural and Catalytic Properties of Enzymes in Reverse Micelles." Enzyme Microb. Technol., 1993; 15; 383-392.

Other Reference Publication (11):
Dorovska-Taran, V. Et al., "Reverse Micelles as a Water-Property-Control System to Investigate the Hydration/Activity Relationship of a-Chymotrypsin." Eur. J. Biochem. 1993; 218; 1013-1019.

Other Reference Publication (16):
Garza-Ramos, G. Et al., "Deamidation of Triosephosphate Isomerase in Reverse Micelles: Effects of Water on Catalysis and Molecular Wear and Tear." Biochemistry 1994; 33; 6960-6965.

Other Reference Publication (19):
Haber, J. Et al., "Activity and Spectroscopic Properties of Bovine Liver Catalase in Sodium Bis(2-Ethylhexyl)Sulfosuccinate/Isooctane Reverse Micelles." 1993; 217; 567-573.

Other Reference Publication (20):
Han, D.H. Et al., "Separation of Intracellular Proteins From Candida Utilis Using Reverse Micelles in a Spray Column." Biotechnology Techniques Feb. 1994; vol. 8, No. 2; 105-110.

Other Reference Publication (22):
Hayes, D. Et al., "1-Monoglyceride Production From Lipase-Catalyzed Esterification of Glycerol and Fatty Acid in Reverse Micelles." Biotechnology and Bioengineering 1991; 38; 507-517.

Other Reference Publication (36):
Lerk, P.C. Et al., "Application of Sucrose Laurate in Topical Preparations of Cyclosporin A." International Journal of Pharmaceutics 1993; 92; 203-210.

Other Reference Publication (47):
Raabe, E. Et al., "Glucoseoxidase from Aspergillus Niger in Reverse Micelles; pH and w Dependence." J. Biochem. Biophys. Methods 1994; 29; 207-216.

Other Reference Publication (48):
Regalado, D. Et al., "Studies on the Purification of Peroxidase From Horseradish Roots Using Reverse Micelles." Enzyme and Microbial Technology 1996; 18; 332-339.

Other Reference Publication (50):
Rodakiewicz-Nowak, J. Et al., "The Effect of Linoleic Acid pH Inside Sodium Bis(2-ethylhexyl)sulfosuccinate Reverse Micelles Isooctane and On the Enzymic Activity of Soybean Lipoxygenase." J Biochem. 1996; 238; 549-553.

Other Reference Publication (52):
Shoshani, L. Et al., "Activity and Fluorescence Changes of Lactate Dehydrogenase Induced by Guanidine Hydrochloride in Reverse Micelles." Eur. J. Biochem. 1994; 221; 1027-1032.

CLAIMS:

1. A negatively-charged, zwitterionic, or neutral complex for delivery to a cell,

comprising: the complex formed by the process of inserting a nucleic acid into a negatively-charged, zwitterionic, or neutral reverse micelle wherein the nucleic acid is compacted.

2. The complex of claim 1 wherein the nucleic acid interacts with a compound within the reverse micelle.

3. A The complex of claim 1 wherein the nucleic acid is extractable from the reverse micelle.

4. The complex of claim 1 wherein the reverse micelle is coated with a layer.

10. A process for delivering a complex to a cell, comprising: inserting a nucleic acid from one solvent into a reverse micelle in another solvent and delivering the complex containing the nucleic acid and reverse micelle to the cell.

12. The process of claim 10 wherein the nucleic acid is removable from the reverse micelle.

15. The process of claim 12 wherein removing the nucleic acid comprises: a) cleaving the reverse micelle; and, b) extracting the nucleic acid.

17. A process for delivering a negatively-charged, zwitterionic, or neutral complex to a cell, comprising: inserting a nucleic acid into a negatively-charged, zwitterionic, or neutral reverse micelle and delivering the complex containing the nucleic acid and reverse micelle to the cell.

L2: Entry 24 of 56 File: USPT Nov 13, 2001

DOCUMENT-IDENTIFIER: US 6316497 B1
TITLE: Self-emulsifying systems containing anticancer medicament

Detailed Description Text (16):
The presence of water in the self-emulsifying system will form reverse micelles with surfactants, for example Tween 80 or Capmul MCM. The core of the micelle consists of an aqueous or hydrophilic micro-phase. hydrophilic impurities will be solubilized or partitioned into the reversed micelles in formulation, thereby minimizing the degradation of the o-(chloroacetylcarbamoyl)fumigillol. The formation of reversed micelles in the self-emulsifying system protects the drug from degradation or stabilizes the drug in the macroscopically homogeneous SES solution.

Detailed Description Text (30):
In another aspect of the invention, the present invention relates to a method of suppressing cell proliferation and neovascularization comprising administering a formulation having the above stabilized self-emulsifying system. The stabilized self-emulsifying system suitable for an intended mode of administration, such as topical, parenteral, or oral, e.g. in the form of capsule fillings. The term "parenteral" as used herein refers to modes of administration, which include intravenous, intramuscular, intraperitoneal, intracisternal, subcutaneous and intraarticular injection and infusion.

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L2: Entry 30 of 56 File: USPT Dec 21, 1999

DOCUMENT-IDENTIFIER: US 6004580 A
TITLE: Pharmaceutical compositions derived from microemulsion-based gels

Drawing Description Text (2):
FIG. 1 illustrates microemulsion regions, micelle regions and reverse micelle regions of the composition of the present invention.

Detailed Description Text (5):
The term "microemulsion" as used in the definition of this invention in the description part and in the claims comprises both conventional microemulsion regions and micellar (micelles and-reverse micelles) regions as shown in FIG. 1.

Detailed Description Text (6):
The term "droplet" as used in the definition of this invention in the description part and in the claims comprises both a conventional microemulsion and micelle, reverse micelle, respectively.

Detailed Description Text (15):
The obtained microemulsion-based gel is moulded into pieces of desired size and shape. The gel can be used as such for oral, rectal, intravaginal, transdermal or topical pharmaceutical preparations without any additives besides possible preserving agents.

Detailed Description Text (31):
The water/ethanol solution used-contained 50 weight-% ethanol. The components of each concentration combination were weighed separately in a test tube. After 24 hour stabilization at a temperature of 25.degree. C. the phases were visually analyzed between polarized glasses. The obtained phase diagram is shown in FIG. 3. The figure shows that a one-phase region (W IV) had been found by visual observation. In FIG. 3 L.sub.1 denotes a micellar region and L.sub.2 a region of reverse micelles. F and D denote liquid crystal phases which are anisotropic systems.

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Search Results - Record(s) 1 through 30 of 56 returned.

☐ 1. Document ID: US 6696417 B1

Using default format because multiple data bases are involved.

L2: Entry 1 of 56 File: USPT Feb 24, 2004

US-PAT-NO: 6696417
DOCUMENT-IDENTIFIER: US 6696417 B1

TITLE: Skin and hair darkening composition

DATE-ISSUED: February 24, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Raghupathi; Subramanian	Mumbai			IN
Ramaiah; Abburi	Dehradun			IN
Raman; Govindarajan	Bangalore			IN
Wagh; Sushama Shripad	Bangalore			IN

US-CL-CURRENT: 514/17; 424/59, 424/70.1, 424/70.6, 514/2, 514/844, 514/880

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 2. Document ID: US 6696081 B2

L2: Entry 2 of 56 File: USPT Feb 24, 2004

US-PAT-NO: 6696081
DOCUMENT-IDENTIFIER: US 6696081 B2

TITLE: Carbohydrate based lipid compositions and supramolecular structures comprising same

DATE-ISSUED: February 24, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Grinstaff; Mark W.	Durham	NC		
Hird; Geoffrey S.	Durham	NC		

US-CL-CURRENT: 424/450; 514/23, 514/25, 514/44, 536/117, 536/18.7, 548/413, 549/6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 3. Document ID: US 6676951 B1

L2: Entry 3 of 56 File: USPT Jan 13, 2004

US-PAT-NO: 6676951
DOCUMENT-IDENTIFIER: US 6676951 B1

TITLE: Host-guest processes and formulations for delivering bio-affecting compounds

DATE-ISSUED: January 13, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Champ; Charles Walton	San Antonio	TX	78232	
Kinzer; Karen June	San Antonio	TX	78232	

US-CL-CURRENT: 424/400; 424/404, 428/402

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 4. Document ID: US 6673612 B2

L2: Entry 4 of 56 File: USPT Jan 6, 2004

US-PAT-NO: 6673612
DOCUMENT-IDENTIFIER: US 6673612 B2

TITLE: Micellar systems

DATE-ISSUED: January 6, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Monahan; Sean D.	Madison	WI		
Wolff; Jon A.	Madison	WI		
Slattum; Paul M.	Madison	WI		
Hagstrom; James E.	Middleton	WI		
Budker; Vladimir G.	Middleton	WI		

US-CL-CURRENT: 435/458; 424/450, 435/455, 514/2, 514/44

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 5. Document ID: US 6660715 B2

L2: Entry 5 of 56 File: USPT Dec 9, 2003

US-PAT-NO: 6660715
DOCUMENT-IDENTIFIER: US 6660715 B2

TITLE: Nonaqueous solutions and suspensions of macromolecules for pulmonary delivery

DATE-ISSUED: December 9, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Klibanov; Alexander M.	Newton	MA		

US-CL-CURRENT: 514/2; 514/44

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 6. Document ID: US 6630351 B1

L2: Entry 6 of 56 File: USPT Oct 7, 2003

US-PAT-NO: 6630351
DOCUMENT-IDENTIFIER: US 6630351 B1

TITLE: Compositions and methods for drug delivery using pH sensitive molecules

DATE-ISSUED: October 7, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Monahan; Sean D.	Madison	WI		
Wolff; Jon A.	Madison	WI		
Hagstrom; James E.	Middleton	WI		
Budker; Vladimir G.	Madison	WI		
Rozema; David B.	Madison	WI		

US-CL-CURRENT: 435/455; 435/325, 435/440

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 7. Document ID: US 6610764 B1

L2: Entry 7 of 56 File: USPT Aug 26, 2003

US-PAT-NO: 6610764
DOCUMENT-IDENTIFIER: US 6610764 B1

TITLE: Polyhydroxyalkanoate compositions having controlled degradation rates

DATE-ISSUED: August 26, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Martin; David P.	Arlington	MA		
Skraly; Frank	Boston	MA		
Williams; Simon F.	Sherborn	MA		

US-CL-CURRENT: 523/124; 524/17, 524/27, 524/559, 525/411, 525/450

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 8. Document ID: US 6603012 B2

L2: Entry 8 of 56 File: USPT Aug 5, 2003

US-PAT-NO: 6603012
DOCUMENT-IDENTIFIER: US 6603012 B2
** See image for Certificate of Correction **

TITLE: RAR selective retinoid agonists

DATE-ISSUED: August 5, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Belloni; Paula Nanette	Half Moon Bay	CA		
Jolidon; Synese	Blauen			CH
Klaus; Michael	Weil am Rhein			DE
Lapierre; Jean-Marc	Mountain View	CA		

US-CL-CURRENT: 546/342; 548/131, 548/204, 548/376.1, 548/562, 549/499, 560/10, 560/58, 562/427, 562/466, 562/473

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 9. Document ID: US 6548569 B1

L2: Entry 9 of 56 File: USPT Apr 15, 2003

US-PAT-NO: 6548569
DOCUMENT-IDENTIFIER: US 6548569 B1

TITLE: Medical devices and applications of polyhydroxyalkanoate polymers

DATE-ISSUED: April 15, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Williams; Simon F.	Sherborn	MA		
Martin; David P.	Arlington	MA		
Skraly; Frank A.	Somerville	MA		

US-CL-CURRENT: 523/124; 521/27, 525/411, 525/450

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

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☐ 10. Document ID: US 6541159 B1

L2: Entry 10 of 56 File: USPT Apr 1, 2003

US-PAT-NO: 6541159
DOCUMENT-IDENTIFIER: US 6541159 B1

TITLE: Oxygen separation through hydroxide-conductive membrane

DATE-ISSUED: April 1, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Li; Lin-Feng	Croton-on-Hudson	NY		
Yao; Wayne	Saddle Brook	NJ		
Chen; Muguo	Bedford Hills	NY		

US-CL-CURRENT: 429/236; 204/295, 205/629, 429/235

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

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☐ 11. Document ID: US 6528677 B1

L2: Entry 11 of 56 File: USPT Mar 4, 2003

US-PAT-NO: 6528677
DOCUMENT-IDENTIFIER: US 6528677 B1

TITLE: Selective retinoid agonists

DATE-ISSUED: March 4, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Belloni; Paula Nanette	Half Moon Bay	CA		
Klaus; Michael	Weil am Rhein			DE
Lapierre; Jean-Marc	Mountain View	CA		

US-CL-CURRENT: 560/8; 560/64, 562/405

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

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☐ 12. Document ID: US 6528071 B2

L2: Entry 12 of 56 File: USPT Mar 4, 2003

US-PAT-NO: 6528071
DOCUMENT-IDENTIFIER: US 6528071 B2

TITLE: Cosmetic compositions

DATE-ISSUED: March 4, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Vatter; Michael Lee	Okeana	OH		
Tarantino; David Edmund	Loveland	OH		
Scherneck; Nichole Marie	Baltimore	MD		
Armstrong, Jr.; Michael Gary	Randallstown	MD		

US-CL-CURRENT: 424/401; 424/64

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 13. Document ID: US 6517848 B1

L2: Entry 13 of 56 File: USPT Feb 11, 2003

US-PAT-NO: 6517848
DOCUMENT-IDENTIFIER: US 6517848 B1

TITLE: Method for sequestration of skin irritants with absorbent article composition

DATE-ISSUED: February 11, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Huard; Linda Susan	Appleton	WI		
Tyrrell; David John	Appleton	WI		
Otts; David Roland	Appleton	WI		
Minerath, III; Bernard Joseph	Oshkosh	WI		
Nelson; Brenda Marie	Appleton	WI		
Buhrow; Chantel Spring	Weyauwega	WI		
Everhart; Dennis Stein	Alpharetta	GA		
DiLuccio; Robert Cosmo	Alpharetta	GA		
Akin; Frank Jerrel	Marietta	GA		

US-CL-CURRENT: 424/402; 424/400, 424/401, 424/443, 424/604, 424/78.08, 604/367, 604/368

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 14. Document ID: US 6489103 B1

L2: Entry 14 of 56 File: USPT Dec 3, 2002

US-PAT-NO: 6489103
DOCUMENT-IDENTIFIER: US 6489103 B1

TITLE: In vitro sorting method

DATE-ISSUED: December 3, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Griffiths; Andrew	Hills Road			GB
Tawfik; Dan	Hills Road			GB

US-CL-CURRENT: 435/6; 424/426, 424/501, 435/320.1, 435/5, 435/69.1, 514/44, 536/23.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 15. Document ID: US 6485733 B1

L2: Entry 15 of 56 File: USPT Nov 26, 2002

US-PAT-NO: 6485733
DOCUMENT-IDENTIFIER: US 6485733 B1

TITLE: Absorbent article composition for sequestering skin irritants

DATE-ISSUED: November 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Huard; Linda Susan	Appleton	WI		
Tyrrell; David John	Appleton	WI		
Otts; David Roland	Appleton	WI		
Minerath, III; Bernard Joseph	Oshkosh	WI		
Nelson; Brenda Marie	Appleton	WI		
Buhrow; Chantel Spring	Weyauwega	WI		
Everhart; Dennis Stein	Alpharetta	GA		
DiLuccio; Robert Cosmo	Alpharetta	GA		
Akin; Frank Jerrel	Marietta	GA		

US-CL-CURRENT: 424/402; 424/400, 424/401, 424/443, 424/604, 424/78.08, 604/367, 604/368

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 16. Document ID: US 6485706 B1

L2: Entry 16 of 56 File: USPT Nov 26, 2002

US-PAT-NO: 6485706
DOCUMENT-IDENTIFIER: US 6485706 B1

TITLE: Formulations comprising dehydrated particles of pharma-ceutical agents and process for preparing the same

DATE-ISSUED: November 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
McCoy; Randall	McConnellsburg	PA		
Libbey, III; Miles Augustus	Pennington	NJ		
Liu; Jle	Scotch Plains	NJ		
Williams, III; Robert O.	Austin	TX		

US-CL-CURRENT: 424/45; 424/46, 424/49, 424/491, 424/54, 514/2, 514/3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 17. Document ID: US 6479670 B1

L2: Entry 17 of 56 File: USPT Nov 12, 2002

US-PAT-NO: 6479670
DOCUMENT-IDENTIFIER: US 6479670 B1

TITLE: Selective retinoid acid receptor agonists

DATE-ISSUED: November 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Belloni; Paula Nanette	Half Moon Bay	CA		
Mohr; Peter	Basel			CH

US-CL-CURRENT: 549/9; 549/23, 549/355, 549/407

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 18. Document ID: US 6479540 B1

L2: Entry 18 of 56 File: USPT Nov 12, 2002

US-PAT-NO: 6479540
DOCUMENT-IDENTIFIER: US 6479540 B1
**** See image for Certificate of Correction ****

TITLE: Compositions of tocol-soluble therapeutics

DATE-ISSUED: November 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Constantinides; Panayiotis P.	Gurnee	IL		
Lambert; Karel J.	Woodinville	WA		
Tustian; Alexander K.	Bothell	WA		
Nienstedt; Andrew M.	Seattle	WA		

US-CL-CURRENT: 514/458; 424/400, 514/937, 514/938, 549/407

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 19. Document ID: US 6429200 B1

L2: Entry 19 of 56 File: USPT Aug 6, 2002

US-PAT-NO: 6429200
DOCUMENT-IDENTIFIER: US 6429200 B1

TITLE: Reverse micelles for delivery of nucleic acids

DATE-ISSUED: August 6, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Monahan; Sean D.	Madison	WI		
Wolff; Jon A.	Madison	WI		
Slattum; Paul M.	Madison	WI		
Hagstrom; James E.	Madison	WI		
Budker; Vladimir G.	Madison	WI		

US-CL-CURRENT: 514/44; 424/450, 435/455, 435/458, 536/23.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 20. Document ID: US 6403810 B2

L2: Entry 20 of 56 File: USPT Jun 11, 2002

US-PAT-NO: 6403810
DOCUMENT-IDENTIFIER: US 6403810 B2

TITLE: Thiophene derivatives

DATE-ISSUED: June 11, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY

Klaus; Michael	Weil am Rhein		DE
Lapierre; Jean-Marc	Mountain View	CA	

US-CL-CURRENT: 549/71

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 21. Document ID: US 6368619 B1

L2: Entry 21 of 56 File: USPT Apr 9, 2002

US-PAT-NO: 6368619
DOCUMENT-IDENTIFIER: US 6368619 B1

TITLE: Hydrophobic preparations of hydrophilic species and process for their preparation

DATE-ISSUED: April 9, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
New; Roger Randal Charles	London			GB
Kirby; Christopher John	Berkshire			GB

US-CL-CURRENT: 424/450; 264/4.1, 264/4.3, 424/812, 424/94.3, 514/2, 514/21, 514/3, 514/44, 514/6, 514/8, 514/937

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 22. Document ID: US 6355693 B1

L2: Entry 22 of 56 File: USPT Mar 12, 2002

US-PAT-NO: 6355693
DOCUMENT-IDENTIFIER: US 6355693 B1
** See image for Certificate of Correction **

TITLE: Fractionated vegetable oil

DATE-ISSUED: March 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Herslof; Bengt	Stockholm			SE
Tingvall; Per	Norberg			SE
Kroon; Carl-Gunnar	Stockholm			SE

US-CL-CURRENT: 516/29; 424/776, 426/430, 516/73, 516/918, 536/123.13, 536/128, 554/14

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 23. Document ID: US 6350458 B1

L2: Entry 23 of 56 File: USPT Feb 26, 2002

US-PAT-NO: 6350458
DOCUMENT-IDENTIFIER: US 6350458 B1

TITLE: Mixed micellar drug deliver system and method of preparation

DATE-ISSUED: February 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Modi; Pankaj	Ancaster			CA

US-CL-CURRENT: 424/400; 424/422, 424/434, 424/450, 514/2, 514/3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 24. Document ID: US 6316497 B1

L2: Entry 24 of 56 File: USPT Nov 13, 2001

US-PAT-NO: 6316497
DOCUMENT-IDENTIFIER: US 6316497 B1

TITLE: Self-emulsifying systems containing anticancer medicament

DATE-ISSUED: November 13, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Liu; Rong Ron	Gurnee	IL		
Wang; Zheng	Westboro	MA		

US-CL-CURRENT: 514/475; 514/937, 514/938, 514/941, 514/943

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 25. Document ID: US 6300350 B1

L2: Entry 25 of 56 File: USPT Oct 9, 2001

US-PAT-NO: 6300350
DOCUMENT-IDENTIFIER: US 6300350 B1

TITLE: Treatment of emphysema using RARγ selective retinoid agonists

DATE-ISSUED: October 9, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Belloni; Paula Nanette	Half Moon Bay	CA		
Klaus; Michael	Weil am Rhein			DE

US-CL-CURRENT: 514/350; 514/458, 514/538, 514/563, 514/569

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 26. Document ID: US 6290986 B1

L2: Entry 26 of 56 File: USPT Sep 18, 2001

US-PAT-NO: 6290986
DOCUMENT-IDENTIFIER: US 6290986 B1

TITLE: Method and composition for transdermal administration of pharmacologic agents

DATE-ISSUED: September 18, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murdock; Robert W.	Selah	WA		
Williams; C. Donald	Yakima	WA		

US-CL-CURRENT: 424/449; 424/447, 424/448, 424/484, 514/78

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 27. Document ID: US 6241969 B1

L2: Entry 27 of 56 File: USPT Jun 5, 2001

US-PAT-NO: 6241969
DOCUMENT-IDENTIFIER: US 6241969 B1

TITLE: Aqueous compositions containing corticosteroids for nasal and pulmonary delivery

DATE-ISSUED: June 5, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Saidi; Zahir	Philadelphia	PA		
Klyashchitsky; Boris	Newark	DE		

US-CL-CURRENT: 424/45; 424/198.1, 424/450, 514/179, 514/180

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 28. Document ID: US 6224888 B1

L2: Entry 28 of 56 File: USPT May 1, 2001

US-PAT-NO: 6224888
DOCUMENT-IDENTIFIER: US 6224888 B1
**** See image for Certificate of Correction ****

TITLE: Cosmetic compositions

DATE-ISSUED: May 1, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Vatter; Michael Lee	Okeana	OH		
Tarantino; David Edmund	Loveland	OH		
Scherneck; Nichole Marie	Baltimore	MD		
Armstrong, Jr.; Michael Gary	Randallstown	MD		

US-CL-CURRENT: 424/401; 424/78.03

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 29. Document ID: US 6083973 A

L2: Entry 29 of 56 File: USPT Jul 4, 2000

US-PAT-NO: 6083973
DOCUMENT-IDENTIFIER: US 6083973 A

TITLE: Methods for inhibiting mucin secretion using RAR .alpha. selective antagonists

DATE-ISSUED: July 4, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Belloni; Paula Nanette	Half Moon Bay	CA		

US-CL-CURRENT: 514/432; 514/219, 514/339, 514/394, 514/431, 514/443, 514/456, 514/569

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 30. Document ID: US 6004580 A

L2: Entry 30 of 56 File: USPT Dec 21, 1999

US-PAT-NO: 6004580
DOCUMENT-IDENTIFIER: US 6004580 A

TITLE: Pharmaceutical compositions derived from microemulsion-based gels

DATE-ISSUED: December 21, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Backlund; Sune	Pargas			FI
Eriksson; Folke	Karis			FI
Rantala; Maria	Merimasku			FI
Rantala; Pertti	Littoinen			FI
Varho; Kari	Naantali			FI

US-CL-CURRENT: 424/450; 424/455, 424/456, 424/460, 424/461, 514/937, 514/938, 514/944

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☐ 31. Document ID: US 5997888 A

Using default format because multiple data bases are involved.

L2: Entry 31 of 56 File: USPT Dec 7, 1999

US-PAT-NO: 5997888
DOCUMENT-IDENTIFIER: US 5997888 A

TITLE: Cosmetic preparations

DATE-ISSUED: December 7, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weder; Hans Georg	Ruschlikon			CH
Weder; Marc Antoine	Ruschlikon			CH

US-CL-CURRENT: 424/401; 514/78, 514/844, 514/846, 514/847, 514/848, 514/937, 514/938

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 32. Document ID: US 5879703 A

L2: Entry 32 of 56 File: USPT Mar 9, 1999

US-PAT-NO: 5879703
DOCUMENT-IDENTIFIER: US 5879703 A
** See image for Certificate of Correction **

TITLE: Encapsulation of active ingredients into lipid vesicles

DATE-ISSUED: March 9, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fountain; Michael W.	Tampa	FL		

US-CL-CURRENT: 424/450; 264/4.1, 514/937

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 33. Document ID: US 5874481 A

L2: Entry 33 of 56 File: USPT Feb 23, 1999

US-PAT-NO: 5874481
DOCUMENT-IDENTIFIER: US 5874481 A

TITLE: Fluorochemical solutions for the delivery of lipophilic pharmaceutical agents

DATE-ISSUED: February 23, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weers; Jeffry G.	San Diego	CA		
Dellamary; Luis A.	San Marcos	CA		
Tarara; Thomas E.	San Diego	CA		
Trevino; Leo A.	San Diego	CA		
Ranney; Helen M.	La Jolla	CA		

US-CL-CURRENT: 514/761; 514/724, 514/757

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 34. Document ID: US 5840056 A

L2: Entry 34 of 56 File: USPT Nov 24, 1998

US-PAT-NO: 5840056
DOCUMENT-IDENTIFIER: US 5840056 A
** See image for Certificate of Correction **

TITLE: Iontophoresis electrode

DATE-ISSUED: November 24, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Atanasoska; Ljiljana	Edina	MN		

US-CL-CURRENT: 604/20; 604/501

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 35. Document ID: US 5788666 A

L2: Entry 35 of 56 File: USPT Aug 4, 1998

US-PAT-NO: 5788666

DOCUMENT-IDENTIFIER: US 5788666 A
**** See image for Certificate of Correction ****

TITLE: Iontophoresis electrode

DATE-ISSUED: August 4, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Atanasoska; Ljiljana	Edina	MN		

US-CL-CURRENT: 604/20

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 36. Document ID: US 5770559 A

L2: Entry 36 of 56 File: USPT Jun 23, 1998

US-PAT-NO: 5770559
DOCUMENT-IDENTIFIER: US 5770559 A

TITLE: Solubilization of pharmaceutical substances in an organic solvent and preparation of pharmaceutical powders using the same

DATE-ISSUED: June 23, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Manning; Mark C.	Fort Collins	CO		
Randolph; Theodore W.	Niwot	CO		
Shefter; Eli	LaJolla	CA		
Falk, III; Richard F.	Boulder	CO		

US-CL-CURRENT: 514/2; 424/450, 424/489, 514/21, 530/412, 530/418, 530/419, 530/427

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 37. Document ID: US 5766628 A

L2: Entry 37 of 56 File: USPT Jun 16, 1998

US-PAT-NO: 5766628
DOCUMENT-IDENTIFIER: US 5766628 A
**** See image for Certificate of Correction ****

TITLE: Bath and shower composition having vesicle-forming properties and method for the production and use thereof

DATE-ISSUED: June 16, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nurnberg; Eberhard	Uttenreuth			DE
Gassenmeier; Thomas	Nurnberg			DE
Beutler; Rolf Dieter	Hochst/Odenwald			DE
Ebinger; Jurgen	Hunstetten			DE

US-CL-CURRENT: 424/45; 424/70.31

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

☐ 38. Document ID: US 5716639 A

L2: Entry 38 of 56 File: USPT Feb 10, 1998

US-PAT-NO: 5716639
DOCUMENT-IDENTIFIER: US 5716639 A

TITLE: Lipophilic carrier preparations

DATE-ISSUED: February 10, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Carlsson; Anders	Stockholm			SE
Herslof; Bengt	Stockholm			SE

US-CL-CURRENT: 424/450; 514/546, 514/547, 514/548, 514/549

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

☐ 39. Document ID: US 5693769 A

L2: Entry 39 of 56 File: USPT Dec 2, 1997

US-PAT-NO: 5693769
DOCUMENT-IDENTIFIER: US 5693769 A

TITLE: Glycosylated steroid derivatives for transport across biological membranes and process for making and using same

DATE-ISSUED: December 2, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kahne; Daniel Evan	Princeton	NJ		
Kahne; Suzanne Walker	Princeton	NJ		

US-CL-CURRENT: 536/5

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 40. Document ID: US 5688761 A

L2: Entry 40 of 56 File: USPT Nov 18, 1997

US-PAT-NO: 5688761
DOCUMENT-IDENTIFIER: US 5688761 A
**** See image for Certificate of Correction ****

TITLE: Convertible microemulsion formulations

DATE-ISSUED: November 18, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Owen; Albert J.	West Chester	PA		
Yiv; Seang H.	Wilmington	DE		
Sarkahian; Ani B.	Bryn Mawr	PA		

US-CL-CURRENT: 514/2; 424/193.1, 424/400, 424/94.3, 514/12, 514/13

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 41. Document ID: US 5654337 A

L2: Entry 41 of 56 File: USPT Aug 5, 1997

US-PAT-NO: 5654337
DOCUMENT-IDENTIFIER: US 5654337 A

TITLE: Topical formulation for local delivery of a pharmaceutically active agent

DATE-ISSUED: August 5, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Roentsch; Elmer George	Stoddard	NH		
Snyder, II; William Scott	Inverness	FL	34450	

US-CL-CURRENT: 514/570; 514/78

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 42. Document ID: US 5646109 A

L2: Entry 42 of 56 File: USPT Jul 8, 1997

US-PAT-NO: 5646109

DOCUMENT-IDENTIFIER: US 5646109 A

TITLE: Convertible microemulsion formulations

DATE-ISSUED: July 8, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Owen; Albert J.	West Chester	PA		
Yiv; Seang H.	Wilmington	DE		

US-CL-CURRENT: 514/2; 424/400, 514/12, 514/937

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 43. Document ID: US 5633226 A

L2: Entry 43 of 56 File: USPT May 27, 1997

US-PAT-NO: 5633226
DOCUMENT-IDENTIFIER: US 5633226 A

TITLE: Convertible microemulsion formulations

DATE-ISSUED: May 27, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Owen; Albert J.	West Chester	PA		
Yiv; Seang H.	Wilmington	DE		

US-CL-CURRENT: 514/2; 424/193.1, 424/400, 514/784, 514/937

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 44. Document ID: US 5629021 A

L2: Entry 44 of 56 File: USPT May 13, 1997

US-PAT-NO: 5629021
DOCUMENT-IDENTIFIER: US 5629021 A

TITLE: Micellar nanoparticles

DATE-ISSUED: May 13, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wright; D. Craig	Gaithersburg	MD		

US-CL-CURRENT: 424/489; 424/470

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 45. Document ID: US 5627270 A

L2: Entry 45 of 56 File: USPT May 6, 1997

US-PAT-NO: 5627270
DOCUMENT-IDENTIFIER: US 5627270 A

TITLE: Glycosylated steroid derivatives for transport across biological membranes and process for making and using same

DATE-ISSUED: May 6, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kahne; Daniel E.	Princeton	NJ		
Kahne; Suzanne W.	Princeton	NJ		
Sofia; Michael J.	Laurenceville	NJ		
Hatzenbuhler; Nicole T.	Kendall Park	NJ		

US-CL-CURRENT: 536/5; 536/23.1, 536/24.1, 536/24.3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 46. Document ID: US 5571795 A

L2: Entry 46 of 56 File: USPT Nov 5, 1996

US-PAT-NO: 5571795
DOCUMENT-IDENTIFIER: US 5571795 A

TITLE: Derivative-compound-conjugates and pharmaceutical compositions comprising same

DATE-ISSUED: November 5, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kahne; Daniel E.	Princeton	NJ		
Walker Kahne; Suzanne	Princeton	NJ		

US-CL-CURRENT: 514/26; 514/178, 514/182, 536/5, 540/106

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 47. Document ID: US 5466455 A

L2: Entry 47 of 56 File: USPT Nov 14, 1995

US-PAT-NO: 5466455
DOCUMENT-IDENTIFIER: US 5466455 A

TITLE: Polyphase fluid-extraction process, resulting products and methods of use

DATE-ISSUED: November 14, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Huffstutler, Jr.; Miles C.	Burnsville	MN	55306	
Steuart; Gary M.	Harmony	MN	55939	

US-CL-CURRENT: 424/401; 424/45, 424/450, 424/47, 424/728, 424/729, 424/746, 424/770, 424/773, 424/DIG.15

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 48. Document ID: US 5444041 A

L2: Entry 48 of 56 File: USPT Aug 22, 1995

US-PAT-NO: 5444041
DOCUMENT-IDENTIFIER: US 5444041 A

TITLE: Convertible microemulsion formulations

DATE-ISSUED: August 22, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Owen; Albert J.	West Chester	PA		
Yiv; Seang H.	Wilmington	DE		
Sarkahian; Ani B.	Bryn Mawr	PA		

US-CL-CURRENT: 514/2; 424/193.1, 424/400, 424/94.3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 49. Document ID: US 5330756 A

L2: Entry 49 of 56 File: USPT Jul 19, 1994

US-PAT-NO: 5330756
DOCUMENT-IDENTIFIER: US 5330756 A

TITLE: Polyphase fluid extraction process, resulting products and methods of use

DATE-ISSUED: July 19, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Steuart; Gary M.	Northfield	MN	55057	
Huffstutler, Jr.; M. Conrad	Lago Vista	TX	78645	

US-CL-CURRENT: 424/405; 424/401, 424/43, 424/44, 424/45, 424/450, 424/47, 424/725, 424/DIG.15, 436/829, 514/937, 514/965

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 50. Document ID: US 5324436 A

L2: Entry 50 of 56 File: USPT Jun 28, 1994

US-PAT-NO: 5324436
DOCUMENT-IDENTIFIER: US 5324436 A
**** See image for Certificate of Correction ****

TITLE: Use of hydrate formation to control membrane mimetic systems

DATE-ISSUED: June 28, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
John; Vijay T.	Kenner	LA		
Akkara; Joseph A.	Holliston	MA		
Kaplan; David L.	Stow	MA		

US-CL-CURRENT: 210/638; 210/643

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 51. Document ID: US 5292499 A

L2: Entry 51 of 56 File: USPT Mar 8, 1994

US-PAT-NO: 5292499
DOCUMENT-IDENTIFIER: US 5292499 A

TITLE: Method of preparing medical aerosol formulations including drug dissolved in reverse micelles

DATE-ISSUED: March 8, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Evans; Richard M.	Norwood	MA		
Farr; Stephen J.	Cardiff			GB7

US-CL-CURRENT: 424/45; 424/43, 424/450, 514/937

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 52. Document ID: US 5100662 A

L2: Entry 52 of 56 File: USPT Mar 31, 1992

US-PAT-NO: 5100662
DOCUMENT-IDENTIFIER: US 5100662 A

TITLE: Steroidal liposomes exhibiting enhanced stability

DATE-ISSUED: March 31, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bolcsak; Lois E.	Lawrenceville	NJ		
Boni; Lawrence	Monmouth Junction	NJ		
Popescu; Mircea C.	Plainsboro	NJ		
Tremblay; Paul A.	Hamilton	NJ		

US-CL-CURRENT: 424/450; 424/208.1, 424/210.1, 424/211.1, 424/226.1, 424/227.1, 424/228.1, 424/250.1, 424/272.1, 424/277.1, 424/283.1, 424/85.2, 428/402.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 53. Document ID: US 4997656 A

L2: Entry 53 of 56 File: USPT Mar 5, 1991

US-PAT-NO: 4997656
DOCUMENT-IDENTIFIER: US 4997656 A

TITLE: Adhesive for percutaneous administration

DATE-ISSUED: March 5, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Shikinami; Yasuo	Osaka			JP
Sasatani; Seiei	Osaka			JP

US-CL-CURRENT: 424/448; 424/449

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 54. Document ID: US 4814161 A

L2: Entry 54 of 56 File: USPT Mar 21, 1989

US-PAT-NO: 4814161
DOCUMENT-IDENTIFIER: US 4814161 A

TITLE: Drug-containing chlorofluorocarbon aerosol propellent formulations

DATE-ISSUED: March 21, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Jinks; Philip A.	Mountsorrel			GB3
Bell; Alexander	Chilwell			GB3
Fischer; Franz X.	Riehen			CH

US-CL-CURRENT: 424/45; 514/149, 514/183, 514/250, 514/315, 514/506, 514/558, 514/740, 514/743, 514/762, 514/767, 514/78 , 514/786, 514/937, 514/95, 514/99

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 55. Document ID: US 20030027339 A1, US 6673612 B2

L2: Entry 55 of 56 File: DWPI Feb 6, 2003

DERWENT-ACC-NO: 2003-615746
DERWENT-WEEK: 200417
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: Forming a complex for delivery to a cell, for therapeutic or analytical purposes, by inserting a cargo into a cationic reverse micelle consisting of amphipathic molecules containing a labile bond

INVENTOR: BUDKER, V G; HAGSTROM, J E ; MONAHAN, S D ; SLATTUM, P M ; WOLFF, J A

PRIORITY-DATA: 2002US-0081461 (February 21, 2002), 1999US-0354957 (July 16, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20030027339 A1	February 6, 2003		021	C12N015/88
US 6673612 B2	January 6, 2004		000	C12N015/88

INT-CL (IPC): A61 K 9/127; B01 J 13/02; C12 N 15/88

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 56. Document ID: WO 200032153 A1, AU 200015736 A

L2: Entry 56 of 56 File: DWPI Jun 8, 2000

DERWENT-ACC-NO: 2000-431045
DERWENT-WEEK: 200044
COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: Fragrance releasing composition, for e.g. perfumery products and laundry compositions, comprises water-in-oil microemulsion

INVENTOR: ALSTON, M; HEMINGWAY, K ; TAYLOR, A

PRIORITY-DATA: 1998GB-0026555 (December 3, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200032153 A1	June 8, 2000	E	026	A61K007/00
AU 200015736 A	June 19, 2000		000	A61K007/00

INT-CL (IPC): A01 K 1/015; A61 K 7/00; A61 K 7/46; A61 L 9/01; A61 L 15/46; C11 D 3/50; C11 D 17/00

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

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Terms	Documents
L1 and (topical$ or transdermal$)	56

Display Format: - Change Format

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L2: Entry 38 of 56 File: USPT Feb 10, 1998

DOCUMENT-IDENTIFIER: US 5716639 A
TITLE: Lipophilic carrier preparations

Brief Summary Text (12):
Microemulsion gels comprising lecithin, i.e. phosphatidylcholine, have been described and characterized by P. L. Luisi, see e.g. D. Capitani et al., Langmuir, 1993, Vol. 9, pp. 685-689. Besides the phospholipid, these gels are composed of a small amount of water and an organic solvent, such as alkanes, fatty acid esters and amines. They are also referred to as organogels. The gels may be used as a matrix for transdermal transport of drugs.

Brief Summary Text (33):
In addition, the non-polar lipid-galactolipid mixture can contain increasing contents of water or aqueous solution which can lead to the formation of reverse vesicles, reverse micelles and water-in-oil emulsion.

Brief Summary Text (35):
At higher glycolipid concentrations, but still low water content, 0.5-2% (w/w) of the total preparation, reverse micelles can be prepared. Reverse micelles, also called microemulsions, consist of water aggregates in an oil. Reverse micelles are thermodynamically stable. The shape and structure of the aggregates may lead to viscous systems, "microemulsion gels".

Brief Summary Text (42):
A pharmaceutical and cosmetic preparation can be prepared by melting a palm oil fraction in an open water bath at a temperature range of 40.degree.-70.degree. C. The active ingredients and the glycosylglycerides are weighed in a vial. The melted palm oil fraction is transferred to the vial and the mixture is dispersed with a high shear mixer at approximately 1000 rpm and at temperature range of 40.degree.-70.degree. C. for 2-4 min. The amount of water or aqueous solution required to form a topically applicable formulation is added and the formulation is mixed carefully with a rod.

Brief Summary Text (43):
The pharmaceutical composition may be formulated for oral, enteral, parenteral, rectal, vaginal, topical, ocular, nasal or aural administration to animals, especially mammals, including humans.

Brief Summary Text (44):
Topical skin care preparations may be classified roughly in medicinal topical skin care preparations and cosmetological preparations in accordance with their manner of use.

Brief Summary Text (45):
As exemplary medicinal topical skin care preparations, may be mentioned various ointments containing one or more active ingredients. Ointments include both those containing an oily base and those containing an oil-in-water or water-in-oil emulsion-type base.

Detailed Description Text (26):

Preparation of Reverse Micelles

CLAIMS:

6. A lipophilic carrier preparation according to claim 1, wherein the preparation is in the form of reverse micelles, comprising, by weight of the total preparation:

(a) a galactolipid material in the amount of about 1-50% by weight;

(b) an aqueous solution in the amount of about 0.1-5.0% by weight; and

(c) a non-polar lipid in the remaining amount of the total preparation.

11. A method of orally, enterally, parenterally, rectally, vaginally, topically, ocularly, nasally or aurally administering to animals the pharmaceutical composition according to claim 9.

First Hit Fwd Refs

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L2: Entry 40 of 56 File: USPT Nov 18, 1997

US-PAT-NO: 5688761
DOCUMENT-IDENTIFIER: US 5688761 A
** See image for Certificate of Correction **

TITLE: Convertible microemulsion formulations

DATE-ISSUED: November 18, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Owen; Albert J.	West Chester	PA		
Yiv; Seang H.	Wilmington	DE		
Sarkahian; Ani B.	Bryn Mawr	PA		

US-CL-CURRENT: 514/2; 424/193.1, 424/400, 424/94.3, 514/12, 514/13

CLAIMS:

What is claimed is:

1. A stable, water-in-oil microemulsion composition suitable for storage and administration of biologically active materials, comprising:

(a) from about 5 to about 99 volume percent of an oil phase comprising at least one pharmaceutically acceptable oil;

(b) up to about 60 volume percent of an aqueous phase comprising water;

(c) a biologically active material having a water:oil partition coefficient greater than 10:1;

(d) from about 1 to about 70 volume percent of a mixture of surfactants having a combined HLB value of from about 7 to about 14 comprising

(i) a low HLB surfactant having an HLB below 8, said low HLB surfactant being at least 80 percent by weight of a C.sub.9 monoglyceride, C.sub.10 monoglyceride, C.sub.11 monoglyceride, C.sub.12 monoglyceride, or C.sub.13 monoglyceride, and

(ii) at least one surfactant having an HLB value above about 8.

2. The water-in-oil microemulsion composition of claim 1 wherein the active material is a therapeutic and is a protein or a peptide.

3. The water-in-oil microemulsion composition of claim 2 wherein said water-in-oil

microemUlsion composition contains a low HLB surfactant component that is at least 80 percent by weight of a surfactant selected from the group consisting of C.sub.9 monoglycerides, C.sub.10 monoglycerides, C.sub.11 monoglycerides, C.sub.12 monoglycerides, C.sub.13 monoglycerides, or mixtures thereof.

4. The water-in-oil microemulsion composition of claim 3 wherein said low HLB surfactant component is at least 90 percent by weight of said monoglycerides.

5. The water-in-oil microemulsion composition of claim 3 Wherein said low HLB surfactant component is at least 95 percent by weight of said monoglycerides.

6. The water-in-oil microemulsion composition of claim 3 wherein the oil phase comprises C.sub.9-45 triglycerides, C.sub.7-55 diesters of propylene glycol, and mixtures thereof.

7. The water-in-oil microemulsion composition of claim 3 wherein said low HLB surfactant component contains at least 80 percent by weight of a C.sub.11 monoglyceride.

8. The water-in-oil microemulsion composition of any of the claims 1, 2, 3, 4, 5, 6 or 7 wherein the composition is a solid at about 23.degree. C.

9. The water-in-oil microemulsion composition of any of the claims 1, 2, 3, 4, 5, 6 or 7 wherein the composition is a liquid at about 23.degree. C.

10. The water-in-oil microemulsion composition of any of the claims 2, 3, 4, 5, 6, or 7 wherein the biologically acitve material is selected from the group consisting of RGD peptides, calcitonins, insulins, fibrinogen antagonists, growth hormone releasing peptides, interleukins, erythropoietins, colony stimulating factors, hematoregulatory peptides, vasopressin, collagenase inhibitors, angiotensin inhibitors, mammalian growth hormones, heparins, clotting factors, tissue plasminogen activators, atrial natriuretic peptides, and tumor necrosis factor.

11. A stable, water-in-oil microemulsion composition suitable for storage and administration of biologically active materials, comprising:

(a) from about 5 to about 99 volume percent of an oil phase comprising at least one pharmaceutically acceptable oil;

(b) up to about 60 volume percent of an aqueous phase comprising water;

(c) a biologically active material that is a therapeutic and is a protein or peptide and has a water:oil partition coefficient greater than 10:1;

(d) from about 1 to about 70 volume percent of a mixture of surfactants having a combined HLB value of greater than about 7, comprising

(i) a low HLB surfactant having an HLB below 8, said low HLB surfactant being at least 80 percent by weight of a C.sub.9 monoglyceride, C.sub.10 monoglyceride, C.sub.11 monoglyceride, C.sub.12 monoglyceride, or C.sub.13 monoglyceride, and

(ii) at least one surfactant having an HLB value above about 8, and

(e) a modifier, present in an amount sufficient to cause the water-in-oil microemulsion to convert to an oil-in-water microemulsion upon the addition of aqueous fluid.

12. The water-in-oil microemulsion composition of claim 11 wherein the modifier comprises sorbitol, polyethylene glycol, propylene glycol, mannitol, disaccharides, or mixtures thereof.

13. The water-in-oil microemulsion composition of claim 2 wherein said water-in-oil microemulsion composition contains a low HLB surfactant component that is at least 80 percent by weight of a surfactant selected from the group consisting of C.sub.9 monoglycerides, C.sub.10 monoglycerides, C.sub.11 monoglycerides, C.sub.12 monoglycerides, C.sub.13 monoglycerides, or mixtures thereof.

14. The water-in-oil microemulsion composition of any of the claims 11, 12, or 13, wherein the composition is a solid at about 23.degree. C.

15. The water-in-oil microemulsion composition of any of the claims 11, 12, or 13 wherein the composition is a liquid at about 23.degree. C.

16. A method of administering to animals a water-in-oil microemulsion composition, comprising:

(a) providing a water-in-oil microemulsion comprising

(1) from about 5 to about 99 volume percent of an oil phase comprising at least one pharmaceutically acceptable oil;

(2) up to about 60 volume percent of an aqueous phase comprising water;

(3) a biologically active material that is therpeutic and has a water:oil partition coefficient greater than 10:1;

(4) from about 1 to about 70 volume percent of a mixture of surfactants having a combined HLB value of from about 7 to about 14 comprising

(i) a low HLB surfactant having an HLB below 8, said low HLB surfactant being at least 80 percent by weight of a C.sub.9 monoglyceride, C.sub.10 monoglyceride, C.sub.11 monoglyceride, C.sub.12 monoglyceride, or C.sub.13 monoglyceride, and

(ii) at least one surfactant having an HLB value above about 8;

(b) administering an effective amount of the water-in-oil microemulsion to the body of an animal, wherein the administration is parenterally, enterally, or via any other mucous membrane; and

(c) achieving a therapeutically elective increase in the blood system of said animal of said biologically-active material.

17. The method of claim 16 wherein the active agent is a protein or a peptide.

18. The method of claim 16 wherein the administration is orally.

19. The method of claim 18 wherein the administration is rectally.

20. The method of any of the claims 18 or 19 further comprising converting the water-in-oil microemulsion to an oil-in-water emulsion after the administration step by the addition of aeueous body fluid.

21. The water-in-oil microemulsion composition of claim 3 wherein said biologically active material comprises heparin or its derivatives.

22. The water-in-oil microemulsion composition of claim 13 wherein said biologically active material comprises heparin or its derivatives.

L2: Entry 51 of 56 File: USPT Mar 8, 1994

DOCUMENT-IDENTIFIER: US 5292499 A
TITLE: Method of preparing medical aerosol formulations including drug dissolved in reverse micelles

Abstract Text (1):
The present invention provides a method for the production of medicinal aerosol compositions which are made up of a homogenous solution of aerosol propellants, a surfactant and a pharmaceutically active compound, where the process comprises purifying the surfactant, removing the water from the surfactant, and dispersing the surfactant in an aerosol propellant with a hydrophilic pharmaceutical composition and a controlled amount of water. The present invention also provides medicinal aerosol compositions produced by this method which are a homogenous solution of the pharmaceutically active compound contained in reverse micelles made up of the surfactant; and methods of using the medicinal aerosols to provide an effective amount of a therapeutic agent.

Brief Summary Text (2):
The present invention relates generally to medicinal pressure pack formulations and to a method of preparing and using such products. More specifically, the present invention relates to a reverse micelle colloidal dispersion of hydrophilic pharmaceutically active compounds prepared with aerosol propellant formulations. These drug containing CFC aerosol propellant formulations are useful for topical or for endopulmonary or nasal inhalation administration.

Brief Summary Text (16):
The use of therapeutic concentrations of a model bronchodilator solubilized in heterogeneous systems is disclosed in an article, Evans et al, "Surfactant Association and Water Uptake in a Model Chlorofluorocarbon System," J. Pharm. Pharmacol., 39 (1988) 7P. This article discusses the potential for solubilizing drugs through the alteration of the size and polarity of reverse micelle structure.

Brief Summary Text (18):
The present invention relates to medicinal aerosol products. More specifically, the present invention relates to a medicinal aerosol composition comprising a homogenous solution phase system which contains a hydrophilic pharmaceutically active compound in a controlled reverse micelle, a process for forming the aerosol composition, and a method of using the aerosol composition.

Brief Summary Text (19):
One aspect of the present invention is a method of solubilizing pharmaceutically active hydrophilic compounds within a propellant system. This method comprises the steps of a) purifying a surfactant system, b) reducing the water associated with the surfactant system to an acceptable level, and c) formulating the surfactant system into a homogeneous reverse micelle containing propellant system by adding the propellant, an amount of water sufficient to provide the desired shape and polarity of the micelle, and a hydrophilic pharmaceutically active agent.

Brief Summary Text (20):
A second aspect of the present invention is an aerosol composition comprising a

solution of one or more aerosol propellants, a surfactant and a pharmaceutically active compound. The surfactant used in the above-mentioned aerosol composition forms reverse micelles and the pharmaceutically active compound is a hydrophilic compound associated with the reverse micelles.

Brief Summary Text (21):
Another aspect of the present invention is a method of treatment comprising the use of a formulation comprising an aerosol propellant blend, a surfactant and a pharmaceutically active compound to introduce effective amounts of the solubilized hydrophilic pharmaceutically active agent into the respiratory tract of a patient, or to deliver these topically for local or systemic action.

Drawing Description Text (4):
FIG. 3 is a histogram graph showing a comparison of the deposition profiles of salbutamol in a multistage liquid impinger using reverse micelle formulations of the present invention and using a commercially available suspension product.

Detailed Description Text (4):
A second aspect of the present invention relates to an aerosol composition which comprises a propellant, and a hydrophilic pharmaceutically effective agent which has been solubilized in a reverse micelle.

Detailed Description Text (5):
An additional aspect of the present invention relates to the use of the compositions of the present invention in a therapeutic manner to introduce an effective amount of a pharmaceutically acceptable compound into the respiratory tract. More specifically, one embodiment of the present invention provides a process for forming homogenous solution phase aerosol compositions which are suitable for use within a measured dose inhaler. This method comprises the steps of purifying the surfactant, drying the surfactant to remove water, and forming the reverse micelles through the addition of the pharmaceutically active agent, the chlorofluorocarbon solvent, and a controlled amount of water to control the size and shape of the pharmaceutical containing micelles.

Detailed Description Text (7):
The first step of the method of preparation is the purification of the surfactants which are suitable for use in forming the reverse micelles. It is generally advantageous for the reverse micelles of the present invention to utilize pure surfactant(s) and in the event of the non-availability of a pure source(s) of the required surfactant(s), a purification step would be required.

Detailed Description Text (10):
Elimination of water which is associated with the surfactants provides several advantages to the present invention. First, it prevents phase separation of the final composition, which is produced by the excess water. In addition, the reduction of water allows precise control of the amount of water in the final system. This is important because the shape and characteristics of the final reverse micelles can be controlled and altered by the addition of water in small, carefully controlled increments. Such control over the size and shape of the reverse micelles allows each system to be specifically transferred to a particular drug. Thus, allowing one skilled in the art to optimize drug solubilization such that a therapeutically active amount of drug can be administered to a patient.

Detailed Description Text (16):
The present invention further relates to the inclusion of water, and a pharmaceutically active compound which forms a ternary phase system, and leads to the formation of reverse micelles, the cores of which act as centers for the solubilization of the drug.

Detailed Description Text (17):

More specifically, this embodiment of the present invention relates to the manipulation of the water pool through the addition of water solubilized in the reverse micelle system which allows the shape and core polarity to be manipulated in such a way as to make it more or less suitable as a site for the solubilization of drug molecules.

Detailed Description Text (18):
The solubility of the hydrophilic pharmaceutically acceptable agent is controlled by the relative amounts of water and surfactant which are added to the chlorofluorocarbon solution. To accomplish this optimization, the core polarity of the reverse micelles is manipulated by the addition of an appropriate amount of water. This allows solubilization of a variety of drug molecules which possess varying physico-chemical characteristics.

Detailed Description Text (19):
Surfactant concentration depends upon the potency of the active compound to be administered by the nasal, pulmonary or transdermal route, the solubility of the surfactant in the propellant blend and the affect of solubilizing water into the system (if required). Each of these variables will influence the spray characteristics and hence droplet size of the aerosol generated from such packs.

Detailed Description Text (23):
The exact size of reverse micelles will vary for surfactant/water combination. Changes in the sizes of the micelles can be readily determined by one skilled in the art using light scattering and spectrophotometric techniques.

Detailed Description Text (24):
An additional embodiment of the present invention is the aerosol solution itself which is formed by the above referenced process. This aerosol composition is a colloidal dispersion system comprising a propellant containing reverse micelles made from the surfactant, and where the reverse micelles contain a hydrophilic pharmaceutically active agent.

Detailed Description Text (28):
Suitable surfactants for use in the present invention for forming the reverse micelles include a variety of glycerol phosphatides, including: phosphatidyl choline (lecithin), phosphatidyl ethanolamine (cephalin), phosphatidyl inositol, phosphatidyl serine, diphosphatidyl glycerol, sorbitan mono- and tri-oleates (Span 80 and 85), diolein (DO), oleic acid (OA) or phosphatidic acid.

Detailed Description Text (33):
Particularly preferred drug compositions are the base and sulphate form of salbutamol in a homogeneous reverse micelle formulation in an aerosol propellant as is discussed below in the Examples section. Salbutamol is often referred to as albuterol.

Detailed Description Text (36):
The exact size of reverse micelles will vary for surfactant/water combination, but Table 1 below indicates the changes that were seen to occur for a soya lecithin/P113 system which was examined using a cohort of light scattering and spectrophotometric techniques.

Detailed Description Text (49):
Having purified a sufficient quantity of surfactant(s), it is then necessary to eliminate extraneous water prior to the formulation of both "dry" and swollen reverse micelle systems:

Detailed Description Text (68):
Reverse Micelle Formulation With Same Strength Suspension Aerosol

Detailed Description Paragraph Table (1):

TABLE 1

SPECTROPHOTOMETRIC DATA FOR DRUG FORMULATIONS CONTAINING VARYING LEVELS OF SOYA LECITHIN/P113 Moles H.sub.2 O Molar D.sub.0.sup.1 Intrinsic Axial.sup.2 moles Mass m.sup.2 s.sup.-1 * viscosity Ellipsoid ratio Length.sup.3 lecithin M*10.sup.-6 10.sup.11 [.eta.] shape nm a .delta..sup.4

0.90

1.38 6.51 3.97 oblate 1.41 3.87 0.82 1.75 1.17 6.63 4.40 oblate 1.40 3.82 1.08 2.61
1.30 6.83 2.78 sphere 1.00 4.70 1.33 3.46 1.92 6.72 8.56 prolate 0.45 7.69 2.60
4.32 3.45 6.18 28.01 prolate 0.13 14.45 2.76 5.17 3.19 5.91 79.70 prolate 0.07
18.34 3.69

.sup.1

Diffusion Coefficient (D.sub.0) measured by photon correlation spectroscopy .sup.2 Axial ratio of the length to the width .sup.3 Length of the reverse micelle in nanometers .sup.4 grams solvent/grams solute

Detailed Description Paragraph Table (2):

TABLE 2

DEPOSITION STUDIES USING VENTOLIN .RTM. AND REVERSE MICELLE FORMULATIONS" % entering MLI RF % <5 .mu.m mg of drug pressure pack (mean .+-. s.d.) (mean .+-. s.d.) MMAD (.mu.M) delivered

Ex. 6

0.5 mg/ml 45.06 .+-. 1.58 37.54 .+-. 1.09 3.47 0.009 Ex. 7 1.0 mg/ml 45.55 .+-. 2.38 37.50 .+-. 1.44 3.54 0.019 Ex. 8 2.0 mg/ml 46.35 .+-. 1.40 38.40 .+-. 0.82 3.51 0.038 Comp. Ventolin 39.21 .+-. 1.59 36.77 .+-. 1.41 3.03 0.037 Ex. 1

CLAIMS:

1. A method of preparing an aerosol formulation for drug delivery to a patient's lungs, comprising the steps of:

drying a surfactant from which reverse micelles can be formed; and

mixing said surfactant with a drug, an amount of water, and a propellant to form reverse micelles of said surfactant in said propellant which incorporate said drug, said surfactant being present in an amount ranging from 0.025 to 2.5 percent weight in volume, said drug being present in an amount less than 10 percent by weight, said propellant being present in an amount of at least 90 percent by weight, and said amount of water resulting in a molar ratio of water to surfactant ranging from approximately 1:1 to 20:1.

4. A method as recited in claim 1 wherein said amount of water in said mixing step forms reverse micelles of prolate shape.

5. A method as recited in claim 1 wherein said amount of water in said mixing step forms reverse micelles of oblate shape.

6. A method as recited in claim 1 wherein said amount of water in said mixing step forms reverse micelles of spherical shape.

7. A method of preparing an aerosol formulation of salbutamol for delivery to a patient's lungs, comprising the steps of:

drying a surfactant from which reverse micelles can be formed;

mixing said surfactant with salbutamol in its base or salt form, an amount of water, and a propellant to form reverse micelles of said surfactant in said propellant which incorporate said salbutamol, said surfactant being present in an amount ranging from 0.05 to 2.5 percent weight in volume, said salbutamol being

present in an amount less than 10 percent by weight, said propellant being present in an amount of at least 90 percent by weight, and said amount of water resulting in a molar ratio of water to surfactant ranging from approximately 1:1 to 20:1.

10. A method of preparing an aerosol formulation for drug delivery to a patient's lungs, comprising the steps of:

combining a surfactant with a drug and a propellant, said surfactant being present in an amount ranging from 0.05 to 2.5 percent weight in volume, said drug being present in an amount less than 10 percent by weight, and said propellant being present in an amount of at least 90 percent by weight; and

adjusting an amount of water associated with said surfactant to solubilize said drug in reverse micelles formed from said surfactant and dispersed within said propellant, said amount of water being adjusted to a molar ratio of water to surfactant of up to 20:1.

11. A method as recited in claim 10 wherein said step of adjusting yields reverse micelles that have a prolate shape.

12. A method as recited in claim 10 wherein said step of adjusting yields reverse micelles that have an oblate shape.

13. A method as recited in claim 10 wherein said step of adjusting yields reverse micelles that have a spherical shape.

14. A method of preparing an aerosol formulation for drug delivery to a patient's lungs, comprising the steps of:

drying a surfactant from which reverse micelles can be formed; and

mixing said surfactant with a drug, an amount of water, and a propellant to form reverse micelles of said surfactant in said propellant which incorporate said drug, said surfactant being present in an amount ranging from 0.05 to 2.5 percent weight in volume, said drug having a concentration in said propellant ranging from 0.025 mg/ml to 4.0 mg/ml, and said amount of water resulting in a molar ratio of water to surfactant ranging from approximately 1:1 to 20:1.

17. A method as recited in claim 14 wherein said amount of water in said mixing step forms reverse micelles of prolate shape.

18. A method as recited in claim 14 wherein said amount of water in said mixing step forms reverse micelles of oblate shape.

19. A method as recited in claim 14 wherein said amount of water in said mixing step forms reverse micelles of spherical shape.

23. A method of preparing an aerosol formulation for drug delivery to a patient's lungs, comprising the steps of:

combining a surfactant with a drug and a propellant, said surfactant being present in an amount ranging from 0.05 to 2.5 percent weight in volume, said drug having a concentration in said propellant ranging from 0.025 mg/ml to 4.0 mg/ml; and

adjusting an amount of water associated with said surfactant to solubilize said drug in reverse micelles formed from said surfactant and dispersed within said propellent, said amount of water being adjusting to a molar ratio of water to surfactant of up to 20:1.

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Search Results - Record(s) 1 through 8 of 8 returned.

☐ 1. Document ID: US 6572673 B2

Using default format because multiple data bases are involved.

L6: Entry 1 of 8 File: USPT Jun 3, 2003

US-PAT-NO: 6572673
DOCUMENT-IDENTIFIER: US 6572673 B2

TITLE: Process for preparing noble metal nanoparticles

DATE-ISSUED: June 3, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lee; Chien-Liang	Hsinchu			TW
Wan; Chi-Chao	Hsinchu			TW

US-CL-CURRENT: 75/362; 75/370, 75/371

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 2. Document ID: US 5770172 A

L6: Entry 2 of 8 File: USPT Jun 23, 1998

US-PAT-NO: 5770172
DOCUMENT-IDENTIFIER: US 5770172 A

TITLE: Process of forming compounds using reverse micelle or reverse microemulsion systems

DATE-ISSUED: June 23, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Linehan; John C.	Richland	WA		
Fulton; John L.	Richland	WA		
Bean; Roger M.	Richland	WA		

US-CL-CURRENT: 423/561.1; 208/420, 423/558, 423/566, 423/633, 423/634, 502/338, 516/22, 516/25, 516/27, 516/30

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 3. Document ID: US 5719039 A

L6: Entry 3 of 8 File: USPT Feb 17, 1998

US-PAT-NO: 5719039
DOCUMENT-IDENTIFIER: US 5719039 A

TITLE: Enzyme-surfactant ion-pair complex catalyzed reactions in organic solvents

DATE-ISSUED: February 17, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Dordick; Jonathan S.	Iowa City	IA		
Paradkar; Vikram M.	Madison	WI		

US-CL-CURRENT: 435/41; 435/182, 435/183, 435/195, 435/213, 435/68.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 4. Document ID: US 5531925 A

L6: Entry 4 of 8 File: USPT Jul 2, 1996

US-PAT-NO: 5531925
DOCUMENT-IDENTIFIER: US 5531925 A
**** See image for Certificate of Correction ****

TITLE: Particles, method of preparing said particles and uses thereof

DATE-ISSUED: July 2, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Landh; Tomas	Lund			SE
Larsson; Kare	Bjarred			SE

US-CL-CURRENT: 252/299.01; 424/1.21, 424/450, 424/455, 428/402, 435/4, 514/2, 514/937, 514/964, 516/56, 516/70, 516/76, 516/900

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 5. Document ID: US 5529690 A

L6: Entry 5 of 8 File: USPT Jun 25, 1996

US-PAT-NO: 5529690
DOCUMENT-IDENTIFIER: US 5529690 A

TITLE: Formation of porous materials

DATE-ISSUED: June 25, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Pashley; Richard M.	Aranda			AU
Ninham; Barry W.	Cook			AU
Hyde; Stephen T.	Lyneham			AU
Karaman; Marilyn E.	Chisholm			AU
Morris; Richard A.	Grose Wold			AU

US-CL-CURRENT: 210/490; 210/500.35, 210/500.42

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 6. Document ID: US 5324436 A

L6: Entry 6 of 8 File: USPT Jun 28, 1994

US-PAT-NO: 5324436
DOCUMENT-IDENTIFIER: US 5324436 A
** See image for Certificate of Correction **

TITLE: Use of hydrate formation to control membrane mimetic systems

DATE-ISSUED: June 28, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
John; Vijay T.	Kenner	LA		
Akkara; Joseph A.	Holliston	MA		
Kaplan; David L.	Stow	MA		

US-CL-CURRENT: 210/638; 210/643

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 7. Document ID: US 5266205 A

L6: Entry 7 of 8 File: USPT Nov 30, 1993

US-PAT-NO: 5266205
DOCUMENT-IDENTIFIER: US 5266205 A

TITLE: Supercritical fluid reverse micelle separation

DATE-ISSUED: November 30, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fulton; John L.	Richland	WA		
Smith; Richard D.	Richland	WA		

US-CL-CURRENT: 210/639; 210/656, 210/659, 530/413, 530/417

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 8. Document ID: US 5158704 A

L6: Entry 8 of 8 File: USPT Oct 27, 1992

US-PAT-NO: 5158704
DOCUMENT-IDENTIFIER: US 5158704 A
**** See image for Certificate of Correction ****

TITLE: Supercritical fluid reverse micelle systems

DATE-ISSUED: October 27, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fulton; John L.	Richland	WA		
Smith; Richard D.	Richland	WA		

US-CL-CURRENT: 516/9; 210/643, 210/656, 252/183.11

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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L7: Entry 5 of 21 File: USPT Dec 8, 1998

DOCUMENT-IDENTIFIER: US 5846927 A
TITLE: Matrix or core shell enzyme capsule compositions comprising defined density modifying solids surrounded by defined core structurant material

Brief Summary Text (7):
The encapsulation of sensitive ingredients, especially detergent enzymes, has been in practice for a number of years. Techniques range from encapsulating the enzymes in a reverse micelle (U.S. Pat. No. 4,801,544 to Munk) to protecting them in a hydrocarbon fluid such as silicone oil and petroleum jelly (U.S. Pat. No. 4,906,396 to Falholt et al.); in a solid surfactant (U.S. Pat. No. 4,090,973 to Maguire et al.) or in a polymer matrix (U.S. Pat. No. 5,324,445 to Langley et al.). In many of the prior inventions, the enzyme is used either as an aqueous solution or as a finely dispersed colloidal size solid (about 1 .mu.m and less). In the invention where larger enzyme particles were used (U.S. Pat. No. 4,906,396 to Falholt), i.e., 1 .mu.m to 2 mm, the particles were dispersed in a hydrophobic core and the core was directly incorporated (dispersed) into the detergent formulation, not into a polymer matrix, as carried out in the present invention. However, the polymer matrix has been found to be necessary to achieve the desired enzyme stability in liquid detergent systems containing bleach particles.

Detailed Description Text (21):
Generally, anionic surfactants are used with positively charged solids such as alumina and calcite and cationic surfactants are used on negatively charged solids such as quartz. In general, any surfactant which can adsorb on the solid and render it's surface hydrophobic can be used. Anionic surfactants can be any of the anionic noted in M. Rosen, Surfactants and Interfacial Phenomena, Second Edition, John Wiley and Sons, 1989, Chapter 2, hereby incorporated by reference; and the cationics can be any cationic noted in the same reference to M. Rosen noted above.

Detailed Description Text (42):
The total surfactant amount in the liquid composition of the invention may vary from 2 to 80% by weight, preferably from 10 to 50% by weight, depending on the purpose of use. In the case of suspending liquids comprising an anionic and a nonionic surfactant the ratio thereof may vary from about 10:1 to 1:10. The term anionic surfactant used in this context includes the alkali metal soaps of synthetic or natural long-chain fatty acids having normally from 12 to 20 carbon atoms in the chain.

Detailed Description Text (75):
This example shows that even further enhanced stability can be obtained by treating the solid with surfactant. Alumina (a positively charged solid) was treated with negatively charged (anionic) surfactant (0.1 M sodium dodecyl sulfate); while quartz (negatively charged solid) was treated with positively charged (cationic) surfactant (0.1 M dodecyl amine).

CLAIMS:

6. A detergent composition comprising:

(a) 2% to 80% by wt. of a surfactant selected from the group consisting of anionic

surfactant, nonionic surfactant, cationic surfactant, zwitterionic surfactant, soap and mixtures thereof; and

(b) 0.1% to 20% of a capsule according to claim 1.

L7: Entry 6 of 21 File: USPT Jun 23, 1998

DOCUMENT-IDENTIFIER: US 5770172 A
TITLE: Process of forming compounds using reverse micelle or reverse microemulsion systems

Abstract Text (1):
The present invention is directed to a process for producing a nanometer-sized metal compound. The process comprises forming a reverse micelle or reverse microemulsion system comprising a polar fluid in a non-polar or low-polarity fluid. A first reactant comprising a multi-component, water-soluble metal compound is introduced into the polar fluid in a non-polar or low-polarity fluid. This first reactant can be introduced into the reverse micelle or reverse microemulsion system during formation thereof or subsequent to the formation of the reverse micelle or microemulsion system. The water-soluble metal compound is then reacted in the reverse micelle or reverse microemulsion system to form the nanometer-sized metal compound. The nanometer-sized metal compound is then precipitated from the reverse micelle or reverse microemulsion system.

Brief Summary Text (5):
Reverse micelles and microemulsions are optically transparent, thermodynamically stable systems containing dispersed aqueous droplets stabilized in a continuous nonpolar medium by surfactant shells. The aqueous microdomains within the micelle core (2 to 20 nanometers in diameter) have solvent properties which depend on the molar water-to-surfactant ratio, W. At low W values (<10), the water in the core is highly structured due to association with the polar head group of the surfactant molecules. At higher W values, the swollen micelles (microemulsions) have a free water core with bulk water solvent characteristics. Reverse micelles and microemulsions can, in some respects, be visualized as submicroscopic aqueous reaction vessels into which water soluble species can be dissolved. Further, nanometer-scale particles produced in micelle or microemulsion systems likely have surface coatings of surfactant molecules, making them soluble in the continuous phase and inhibiting subsequent growth by interaction with other particles. In liquid phase studies microdroplets have been used recently as reaction media, utilizing the very small volumes to defeat nucleation and agglomeration processes to yield a finely divided solid product. see Towey, T. F. et al, J. Chem. Soc. Faraday Trans., 86, 1990, p. 3757; and Nagy, J. B., et al in: Preparation of Catalysts, Vol. 3, eds. G. Poncelet, et al (Elsevier, Amsterdam) 1983 p. 193. As described in U.S. Pat. No. 4,933,404 and U.S. Pat. No. 5,238,671, both of which are assigned to the assignee of this patent application, microemulsions formed in supercritical fluids can be used to form solid microparticles.

Brief Summary Text (6):
An article by Wilcoxon, et al, in Met. Res Symp. Proc., Vol. 177, p. 270-3, entitled "Formation of Metal Colloids in Inverse Micelles and Microemulsions", relates to the formation of homogeneous catalysts of elemental gold in the form of colloids form inverse micelle solutions and microemulsions using an N.sub.2 H.sub.4 reducing agent. In another article by Wilcoxon, et al, entitled "Formation of Catalysts in Inverse Micelles", appearing in Mat. Res. Soc. Extended Abstract (EA-24), at pages 226 and 227, 1-10 nanometer-sized small colloidal inverse emulsion metal catalysts of Rh, Ni, NiB, MoO.sub.2, Pd, Au, Ag and alloys thereof. The micelles/microemulsions were prepared using as solvents saturated hydrocarbons,

cyclic hydrocarbons, aromatic hydrocarbons. Three classes of micelle systems were individually investigated, i.e., nonionic, anionic, and cationic. The anionic surfactant used in the anionic system was sodium-bis(2-ethylhexyl) sulfosuccinate (AOT), and the cationic surfactant used in the cationic system was didodecyldimethylammonium bromide (DDAB).

Brief Summary Text (7):
An article by Brus et al, in J. Am. Chem. Soc. Vol. 110, p 3046-3050, entitled "Surface Derivatization and Isolation of Semiconductor Cluster Molecules", describes the synthesis and characterization of CeSe, HgSe, CdTe and CdS semiconductor particles using reverse micelles. These particles could be "capped" with thiophenol and selenophenol to render the particles soluble in organic solvents. The particles were nanometer sized and were synthesized using AOT in heptane based reverse micelles. In another article by Brus et al, in J. Am. Chem. Soc., Vol 112, 1327-1332, entitled "Nucleation and Growth of CdSe on ZnS Quantum Crystallite Seeds, and Vice Versa, in Inverse Micelle Media", the process of producing ZnS and ZnSe particles is described as well as ZnS particles grown on CdSe and vice versa. The "capping" of these particles is also described. A paper by Robinson et al entitled "Kinetics and Mechanism of Formation of Quantum-sized Cadmium Sulphide Particles in Water-Aerosol-OT-Oil Microemulsions" in J. Chem. Soc. Faraday Trans, Vol 86, p. 3757-3762, describes the kinetics of cadmium sulfide particle growth inside of AOT based reverse micelles in various organic solvents including n-heptane, cyclohexane and n-decane. The temperature dependence of the particle growth was also investigated over a range 5.degree. C. to 25.degree. C. in this paper.

Brief Summary Text (9):
The present invention is directed to a process for producing a nanometer-sized metal compound. The process comprises forming a reverse micelle or reverse microemulsion system comprising a polar fluid in a non-polar or low-polarity fluid. A first reactant comprising a multi-component, water-soluble metal compound is introduced into the polar fluid in a non-polar or low-polarity fluid. This first reactant can be introduced into said reverse micelle or reverse microemulsion system during formation thereof or subsequent to the formation of the reverse micelle or microemulsion system. The multi-component, water-soluble metal compound is then reacted in the reverse micelle or reverse microemulsion system to form the nanometer-sized metal compound. The nanometer-sized metal compound is then precipitated from the reverse micelle or reverse microemulsion system. Preferably, the process further includes the step of incorporating the first reactant into the polar fluid for producing the nanometer-sized metal compound.

Brief Summary Text (10):
The subject process can include the further step of adding at least one additional reactant to the reverse micelle or reverse microemulsion system. The additional reactant interacts with the first reactant for producing a nanometer-sized metal compound. Preferably, the additional reactant is capable of diffusing into or out of the reverse micelles or reverse microemulsions for producing the nanometer-sized metal compound. The reverse micelles or reverse microemulsion preferably includes an aqueous fluid and at least one surfactant, and more preferably includes an aqueous fluid, a surfactant and a co-surfactant.

Brief Summary Text (11):
Some of the advantages of the use of reverse micelle or microemulsion technology, particularly for the production of inexpensive coal liquefaction catalysts, are as follows:

Detailed Description Text (2):
Reverse micelle and reverse microemulsion technology has been used to synthesize nanometer-sized metal compounds, particularly metal oxides, metal sulfides, and oxygen-containing metal sulfide compounds. The preferred metal for use in producing

these compounds is iron. These nanometer-sized iron compounds show catalytic activity for carbon-carbon bond scission in model coal compounds under coal liquefaction conditions.

Detailed Description Text (3):
The subject process can produce nanometer-sized metal compounds in reverse micelles or reverse microemulsions which of the present invention which are stable therein, and are preferably stable for an extended period of time. The average particle size of the nanometer-sized metal compounds is preferably not more than about 20 n.m., more preferably not more than about 10 n.m., and most preferably not more than about 5 n.m. Furthermore, the actual particle size can be controlled within a predetermined average particle size range. These nanometer-sized metal compounds show better diffusion properties in aromatic melts than do conventional bulk catalysts of the same composition.

Detailed Description Text (4):
This process of the present invention comprises first forming a reverse micelle or reverse microemulsion system for use in producing nanometer-sized metal compounds. These reverse micelle or reverse microemulsion systems, which typically have a high degree of optical clarity, are comprised of polar fluid (aqueous or water phase) in a non-polar or low-polarity fluid (non-aqueous or oil phase). The polar fluid region surrounds the first reactant(s). This reactant(s) is located in the reverse micelles which are typically spherical or rod-like in configuration. The microemulsion system can also be in the form of a bi-continuous system comprised of a two-phase sponge-like network in which the non-polar of low-polarity fluid forms the sponge portion and the polar fluid forms the void area.

Detailed Description Text (5):
Typically, the polar fluid includes water and at least one surfactant. The surfactant can be of a type that has a polar end group and an oil-like end group. Although several types of surfactants such as cetyl trimethyl ammonium bromide (CTAB), dodecyl penta(oxyethylene) ether (C12E.sub.5), or n-dodecyloctaoxyethylene glycol monoether (C.sub.12 E.sub.8) can be used to form the reverse micelle or reverse microemulsion system, the surfactants of choice are anionic or cationic in nature. Aerosol AOT (anionic), i.e., sodium bis(2-ethyl hexyl) sulfosuccinate and DDAB (cationic), i.e., didodecyl-dimethylammonium bromide are the preferred specific surfactants. The primary surfactant can also include a co-surfactant to facilitate the formation and stability of the reverse micelle or reverse microemulsion systems. The co-surfactants are generally amphiphillic in nature. Sodium alkyl sulfates having from 8 to 20 carbon atoms, preferably SDS (sodium dodecyl sulfate), have proven to be the preferred co-surfactant.

Detailed Description Text (6):
The amount of surfactant and the amount of water which make up the aqueous phase are each preferably from about 1 to 30%, more preferably from about 2 to 20%, and most preferably 5 to 15%, by weight of the total weight of the reverse micelle or reverse microemulsion systems. The maximum total amount of the surfactant and water is preferably up to about 50%, more preferably up to 30%, and most preferably up to about 20%, by weight of the total weight of the reverse micelle or reverse microemulsion systems. The amount of co-surfactant is preferably up to about 75%, and more preferably up to about 50%, and most preferably up to about 25%, by weight of the total weight of primary surfactant in the total weight of the reverse micelle or reverse microemulsion systems.

Detailed Description Text (7):
The solvent portion of the reverse micelle or reverse microemulsion systems typically comprises a non-polar solvent. Non-polar solvents are generally defined as solvents having a small dipole moment (preferably D<1) and a small dielectric constant (preferably e<5). The solvent portion typically comprises aromatic hydrocarbons such as toluene, butylbenzene and benzene, cycloalkanes such a

cyclohexane, chlorinated hydrocarbons such as carbon tetrachloride and methylene chloride, and alkanes having up to 20 carbon atoms, and preferably up to 16 carbon atoms, such as hexane, octane, decane, dodecane and hexadecane, and branched alkanes such as isooctane and dimethyl butane, or mixtures thereof.

Detailed Description Text (8):
After the reverse micelle or reverse microemulsion system is formed, a first reactant comprising a multi-component, water-soluble metal compound is dissolved into that system. Alternatively, the first reactant can be incorporated in the synthesis of the reverse micelle system. This latter approach is preferred.

Detailed Description Text (9):
The first reactant is incorporated into the polar fluid of the reverse micelle or reverse microemulsion for producing the nanometer-sized metal compound. The first reactant is generally a water-soluble sulfate, nitrate, halide, ammonium sulfate or oxalate compound, typically a water-soluble iron compound, such as an iron sulfate compound, an iron nitrate compound, or an iron ammonium sulfate compound. The preferred water-soluble iron compounds comprise FeSO.sub.4, FeCl.sub.2, Fe (NH.sub.4).sub.2 (SO.sub.4).sub.2, FeCl.sub.3, Fe(C.sub.2 O.sub.4), Fe.sub.2 (C.sub.2 O.sub.4).sub.3, Fe(NO.sub.3).sub.2, Fe(NO.sub.3).sub.3, Fe.sub.2 (SO.sub.4).sub.3 and FeNH.sub.4 (SO.sub.4).sub.2, and their hydrates.

Detailed Description Text (11):
The process of the present invention can also include the further step of introducing at least one additional reactant to the reverse micelle or reverse microemulsion system. In this way, the additional reactant(s) will react with the first reactant and thereby produce the nanometer-sized metal compound. The additional reactant can comprise an acidic material or a basic material for enhancing water-solubility of said first reactant. The preferred materials for use as the additional reactant can comprise NH.sub.3, NaOH, Na.sub.2 S, NH.sub.4 OH, O.sub.2, KOH, H.sub.2 S, K.sub.2 S, CO.sub.2, H.sub.2 CO.sub.3, NaHCO.sub.3, KHCO.sub.3, Na.sub.2 CO.sub.3, K.sub.2 CO.sub.3, HCl, H.sub.2 SO.sub.4, H.sub.3 PO.sub.4, H.sub.2 NaPO.sub.4, HNa.sub.2 PO.sub.4, Na.sub.3 PO.sub.4, HK.sub.2 PO.sub.4, H.sub.2 KPO.sub.4, K.sub.3 PO.sub.4, (NH.sub.4).sub.2 S, hydrazine and its hydrates, NaBH.sub.4.

Detailed Description Text (12):
The multi-component, water-soluble metal compound is then reacted in the reverse micelle or reverse microemulsion system to form the nanometer-sized metal compound. Once the reaction is completed, the nanometer-sized metal compound is precipitated from the reverse micelle or reverse microemulsion system. One way of precipitating the nanometer-sized metal compound is by removing water from the reverse micelles or reverse microemulsion systems. Another approach is by forming the nanometer-sized metal compound by raising or lowering the pH of said multi-component, water-soluble metal compound in the reverse micelle or reverse microemulsion system. Other approaches are to add a precipitating agent such as the reagents described above or by allowing the particles to grow or "ripen" until the reverse micelle or microemulsion can no longer contain the particles.

Detailed Description Text (13):
The process of the subject invention is conducted at up to a temperature that would destroy the ability of the surfactant to facilitate the formation of a reverse micelle or reverse microemulsion system, typically from a temperature as low as 5 degrees C. Other process conditions which affect the formation of the nanometer-sized metal compound are as follows: Oxygen, concentration of reactants, size of the reverse micelles or microemulsions, ionic strength of the aqueous phase, the pH of the aqueous phase, the identity of the surfactants, the identity of the organic phase, pressure, the identity of the reactants, rate of gas flow or rate of second reagent addition, total reaction time, the identity of the acid or base used, and stoichiometry of reactants.

Detailed Description Text (14):
In a further scenario, a nanometer-sized metal compound can be precipitated by introducing a capping reagent into said reverse micelle or reverse microemulsion system. This capping agent can comprise any of a primary sulfide, an alcohol, a thioalcohol, a phenol and a thiophenol. Specific capping agents can include thiophenol, octyl thiol, decyl thiol, hexyl thiol, heptyl thiol, dodecyl thiol, lauryl alcohol, methanol, propanol, butanol, octyl alcohol, phenol, 1-(trichlorosilyl) octadecane and iso-propylalcohol.

Detailed Description Text (16):
This invention is different from other techniques for forming ultra-small particles in reverse micelle and microemulsions. Wilcoxon described a method to produce elemental iron particles whereas Brus described a method to produce semiconductor materials. Specifically, this invention relates to methods for the formation of metallic multimetallic compounds which may be used as catalysts in chemical reactions. This invention is also different from conventional methods of Wilcoxon and Brus in that the amount of the nanometer-sized product formed by process of the present invention is at least about 3 times the amount of nanometer-sized product, more preferably at least about 5 times the amount of nanometer-sized product, and most preferably at least about 8 times the amount of conventionally-produced nanometer-sized product.

Detailed Description Text (17):
This invention can also be employed in a process for producing coal-derived liquids. This process comprises forming a reverse micelle or reverse microemulsion system comprising a polar fluid in a non-polar or low-polarity fluid as described above. Then, a first reactant comprising a multi-component, water-soluble metal compound is introduced into the polar fluid in a non-polar or low-polarity fluid during the formation of said reverse micelle or reverse microemulsion system. Alternatively, the metal compound can be introduced into the reverse micelle or reverse microemulsion system subsequent to its formation of producing a nanometer-sized metal compound. A nanometer-sized metal compound is then formed in the reverse micelle or reverse microemulsion system. In the production of coal-derived liquids, a second reactant comprising a coal compound and a hydrogen-donating source is then provided. Finally, the second reactant and the reverse micelle or reverse microemulsion system containing said nanometer-sized metal compound are reacted to form a coal-derived liquid material. More specifically, the reaction step can be conducted by introducing the reverse micelle or reverse microemulsion system containing the nanometer-sized metal compound into a reactor containing the second reactant thereby forming said coal-derived liquid material. Alternatively, the reaction can be conducted by introducing the reverse micelle or reverse microemulsion system containing the nanometer-sized metal compound into the reactor containing said second reactant, and then conducting a coal liquefaction reaction.

Detailed Description Text (18):
Typical Reaction To Produce Metal-Containing Reverse Micelle Solution

Detailed Description Text (19):
A 1M solution of an aqueous iron compound, FeNH.sub.4 (SO.sub.4).sub.2, 12 mL, is added to 3 g SDS in a 250 mL flask. The mixture is stirred for 5 to 10 minutes until a paste forms. The 0.12M AOT in isooctane solution, 150 mL, is added to the iron/SDS slurry and the mixture is stirred for 5 to 10 minutes. To speed up the formation of the reverse micellar solution the mixture may be heated. After the reverse micelle solution is formed the light orange solution is filtered to remove any insoluble impurities.

Detailed Description Text (21):
A base such as ammonia, sodium hydroxide etc., is added to the homogeneous iron-containing reverse micelle or microemulsion solution described above. In one such

method, ammonia is bubbled through the stirred iron-containing reverse micelle or microemulsion solution. At this point oxygen or air may also be bubbled through the solution to speed up the formation of the iron-oxide, or may be excluded to collect Fe(OH).sub.3. The ammonia (and air/oxygen) is bubbled until the iron-oxide is seen to form a precipitate, approximately 5 to 30 minutes depending upon flow rate of ammonia and oxygen content of reverse micelle solution. The crude iron-oxide is separated from the surfactants and solvents by centrifugation. The solid material collected is washed with isooctane, acetone, water, and methylene chloride to remove any traces of the surfactants and sodium sulfate and dried under vacuum. In this reaction up to 1.8 gram of iron oxide may be collected with more than 1 gram of clean dry product being typical.

Detailed Description Text (23):
The size of the solid product produced is controlled, in one procedure, by the water-to-surfactant ratio, W. By adding more aqueous phase relative to the surfactant(s), the size of the reverse micelle will grow and thereby the maximum size of the material produced may also grow. A larger W will give larger product particles.

Detailed Description Text (24):
A second method of controlling particle size is by varying the amount of the metal ion in each reverse micelle. More metal ions in an individual reverse micelle will cause larger particles to grow because diffusion through the aqueous phase of the reverse micelle is similar to diffusion through a bulk aqueous phase. Fewer metal ions in each micelle will yield smaller sized products on a shorter time scale since the exchange of materials between micelles is much slower than bulk diffusion.

Detailed Description Text (25):
Another method of producing particles of different sizes from the reverse micelles is to decrease the exchange of materials between different micelles. Lowering the temperature, or slowing the agitation of the solution will slow the inter-micellar exchange of materials giving either smaller particles or the same sized particles over a longer time scale.

Detailed Description Text (29):
To form a mixed metal species several methods may be followed. The two or more aqueous soluble multicomponent metal containing salts may be dissolved together in the aqueous phase before the formation of the reverse micelle or microemulsion. A second method is to produce separate reverse micellar or microemulsion phase for each multicomponent metal salt and then to mix the different metal containing reverse micelle or microemulsion solutions together. The formation of the multi-metal-oxide, sulfide or mixed oxy-sulfide would follow the typical reaction as described above. The stoichiometry of the different metals would be controlled by the ratio of the different metal species in the aqueous phase. Alternatively the metal stoichiometry could be controlled by the time and rate of addition of the second metal containing reverse micelle or microemulsion solution to the first. The time of the oxide or sulfide formation relative to the mixing of the multimetallic reverse micelle solutions could also be a variable used to control the identity of the final product produced.

Detailed Description Text (30):
For some systems the desired product may contain different components in separate layers. This can be achieved using reverse micelles or microemulsions by forming the first solid phase as per the typical reaction described above and then introducing a different reagent to form a second layer and a third, etc. For example, if a material which contains a metal oxide core surrounded by a nickel sulfide layer is desired, then the iron-oxide is produced as per the typical reaction but is stabilized in the reverse micelle by not allowing growth to a critical size and then a reverse micellar solution containing a aqueous soluble

nickel salt is mixed with the iron-oxide particles. A sulfating agent, as described above, is then used to produce the nickel-sulfide layer upon the iron-oxide layer.

Detailed Description Text (32):
The iron-oxide materials produced have been tested for catalytic activity using the coal model 2-naphthyl-4-bibenzyl methane. The testing procedure involves the use of a hydrogen donating solvent, 9,10-dihydrophenanthrene, the model compound and possibly a co-catalyst such as sulfur or another metal containing catalyst. In a typical reaction 25 mg of 2-naphthyl-4-bibenzyl methane, 100 mg of 9,10-dihydrophenanthrene, 2.5 mg of the reverse micelle produced catalyst and possibly 2.5 mg of sulfur are added to a 10 cm.times.5 mm id quartz or PYREX tube which is sealed at one end. The other end is flame sealed under vacuum after the materials are added. The test mixture may or may not be completely degassed before reaction. The sealed tube is immersed for one hour in a high temperature air agitated sand bath which is at 400.degree. C. The tube is removed from the high temperature bath, cooled and opened. The contents are dissolved in a known amount of solvent, methylene chloride, which contains a known amount of GC, gas chromatography, standard. The dissolved samples are analyzed using standard GC and GC/MS, gas chromatography analyzed by mass spectroscopy, to determine the product distribution and conversions. A sample of these experimental results is shown in Table I.

CLAIMS:

1. A process of producing nanometer-sized particles of a metal oxide compound, comprising the steps of:

forming a reverse micelle system or a bi-continuous system, or a reverse microemulsion system each comprising a polar fluid, a surfactant and a co-surfactant that is water soluble in a non-polar or low-polarity fluid;

introducing a first reactant comprising a multi-component, water soluble metal compound into the polar fluid during the formation of said reverse micelle system or said bi-continuous system subsequent to its formation;

reacting said multi-component, water soluble metal compound in said reverse micelle system or said bi-continuous system to form said nanometer sized particles of said nanometer-sized metal oxide compound, said nanometer sized particles having an average size not more than about 20 nm; and

separating said nanometer-sized particles from said reverse micelle system or said bi-continuous system.

2. The process of claim 1, which includes the further step of adding at least one additional reactant to said reverse micelle or reverse microemulsion system, said additional reactant interacting with said first reactant for producing said nanometer-sized metal compound.

3. The process of claim 2, wherein said additional reactant is capable of diffusing into or out of said reverse micelles or reverse microemulsions for producing said nanometer-sized metal compound.

9. The process of claim 8, wherein the amount of said surfactant and aqueous fluid which form the aqueous phase of said reverse micelles or reverse microemulsion are each from about 2 to 30% by weight, based on the total weight of said reverse micelles or reverse microemulsion.

12. The process of claim 1, which further includes the step of forming said nanometer-sized metal compound by removing water from said reverse micelles or said reverse microemulsion.

13. The process of claim 1, which further includes the step of forming said nanometer-sized metal compound by raising or lowering the pH of said multi-component, water-soluble metal compound in said reverse micelle or reverse microemulsion system.

14. The process of claim 1, wherein said nanometer-sized metal compound is precipitated by introducing a capping reagent into said reverse micelle or reverse microemulsion system.

23. A process of producing nanometer-sized particles of an iron oxide compound, comprising the steps of:

forming a reverse micelle system or a bi-continuous system each comprising a polar fluid, a surfactant and a co-surfactant that is an alkyl sulfate in a non-polar or low-polarity fluid;

introducing a first reactant comprising a multi-component, water soluble iron compound into the polar fluid during the formation of said reverse micelle system or said bi-continuous system subsequent to its formation;

reacting said multi-component, water soluble iron compound in said reverse micelle system or said bi-continuous system to form particles of said nanometer sized iron oxide compound; and

separating said nanometer-sized particles from said reverse micelle system or said bi-continuous system.

29. A process of producing nanometer-sized particles of a metal compound, comprising the steps of:

forming a reverse micelle system or a bi-continuous system, or a reverse microemulsion system each comprising a polar fluid, a surfactant and a co-surfactant that is water soluble in a non-polar or low-polarity fluid;

introducing a first reactant comprising a multi-component, water soluble metal compound into the polar fluid during the formation of said reverse micelle system or said bi-continuous system subsequent to its formation;

reacting said multi-component, water soluble metal compound in said reverse micelle system or said bi-continuous system to form said nanometer sized particles of said nanometer-sized metal compound selected from the group consisting of Fe(OH).sub.3 alpha-FeOOH, alpha-Fe.sub.2 O.sub.3, beta-Fe.sub.2 O.sub.3, gamma-Fe.sub.2 O.sub.3, magnetite, maghemite, beta-FeOOH, FeS, Fe.sub.2 S.sub.3, FeOS, NH.sub.4 FeS.sub.2 and mixtures thereof ; and

separating said nanometer-sized particles from said reverse micelle system or said bi-continuous system.

37. The process of claim 29, wherein said reacting step further includes removing water from said reverse micelles or said reverse microemulsion.

39. The process of claim 29, wherein said reacting step further includes introducing a capping reagent into said reverse micelle or reverse microemulsion system.

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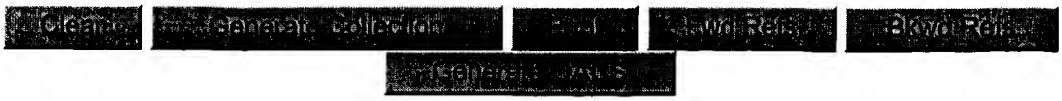

Search Results - Record(s) 1 through 21 of 21 returned.

☐ 1. Document ID: US 6660058 B1

Using default format because multiple data bases are involved.

L7: Entry 1 of 21 File: USPT Dec 9, 2003

US-PAT-NO: 6660058
DOCUMENT-IDENTIFIER: US 6660058 B1

TITLE: Preparation of silver and silver alloyed nanoparticles in surfactant solutions

DATE-ISSUED: December 9, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Oh; Seong-Geun	Seoul			KR
Yi; Sung-Chul	Seoul			KR
Shin; Seung-Il	Seoul			KR
Kim; Dae-Wook	Seoul			KR
Jeong; Sung-Hoon	Seoul			KR

US-CL-CURRENT: 75/351; 75/371

☐ 2. Document ID: US 6572673 B2

L7: Entry 2 of 21 File: USPT Jun 3, 2003

US-PAT-NO: 6572673
DOCUMENT-IDENTIFIER: US 6572673 B2

TITLE: Process for preparing noble metal nanoparticles

DATE-ISSUED: June 3, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lee; Chien-Liang	Hsinchu			TW
Wan; Chi-Chao	Hsinchu			TW

US-CL-CURRENT: 75/362; 75/370, 75/371

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 3. Document ID: US 6548264 B1

L7: Entry 3 of 21 File: USPT Apr 15, 2003

US-PAT-NO: 6548264
DOCUMENT-IDENTIFIER: US 6548264 B1

TITLE: Coated nanoparticles

DATE-ISSUED: April 15, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tan; Weihong	Gainesville	FL		
Santra; Swadeshmukul	Gainesville	FL		
Zhang; Peng	Gainesville	FL		
Tapec; Rovelyn	Gainesville	FL		
Dobson; Jon	Stroke-on-Trent			GB

US-CL-CURRENT: 435/7.21; 428/402, 428/402.2, 428/402.24, 428/403, 428/404, 428/405, 435/6, 435/7.5, 436/524, 436/525, 436/526, 436/527

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 4. Document ID: US 6177088 B1

L7: Entry 4 of 21 File: USPT Jan 23, 2001

US-PAT-NO: 6177088
DOCUMENT-IDENTIFIER: US 6177088 B1

TITLE: Surface-functionalized, probe-containing nanospheres

DATE-ISSUED: January 23, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Guo; Congyuan	Columbia	MO		
Thomas; Rhys N.	Fayette	MO		

US-CL-CURRENT: 424/400; 424/1.53, 428/407

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 5. Document ID: US 5846927 A

L7: Entry 5 of 21 File: USPT Dec 8, 1998

US-PAT-NO: 5846927
DOCUMENT-IDENTIFIER: US 5846927 A

TITLE: Matrix or core shell enzyme capsule compositions comprising defined density modifying solids surrounded by defined core structurant material

DATE-ISSUED: December 8, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Vasudevan; Tirucherai Varahan	West Orange	NJ		

US-CL-CURRENT: 510/530; 510/304, 510/340, 510/372, 510/441

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 6. Document ID: US 5770172 A

L7: Entry 6 of 21 File: USPT Jun 23, 1998

US-PAT-NO: 5770172
DOCUMENT-IDENTIFIER: US 5770172 A

TITLE: Process of forming compounds using reverse micelle or reverse microemulsion systems

DATE-ISSUED: June 23, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Linehan; John C.	Richland	WA		
Fulton; John L.	Richland	WA		
Bean; Roger M.	Richland	WA		

US-CL-CURRENT: 423/561.1; 208/420, 423/558, 423/566, 423/633, 423/634, 502/338, 516/22, 516/25, 516/27, 516/30

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 7. Document ID: US 5756331 A

L7: Entry 7 of 21 File: USPT May 26, 1998

US-PAT-NO: 5756331
DOCUMENT-IDENTIFIER: US 5756331 A

TITLE: Method for solubilizing proteins in organic solvents

DATE-ISSUED: May 26, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Blinkovsky; Alexander	Davis	CA		

US-CL-CURRENT: 435/187; 530/344, 530/345

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 8. Document ID: US 5726154 A

L7: Entry 8 of 21 File: USPT Mar 10, 1998

US-PAT-NO: 5726154
DOCUMENT-IDENTIFIER: US 5726154 A

TITLE: Stabilization and oral delivery of calcitonin

DATE-ISSUED: March 10, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Baudys; Miroslav	Salt Lake City	UT		
Kim; Sung Wan	Salt Lake City	UT		

US-CL-CURRENT: 514/12; 514/2, 530/307

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 9. Document ID: US 5719039 A

L7: Entry 9 of 21 File: USPT Feb 17, 1998

US-PAT-NO: 5719039
DOCUMENT-IDENTIFIER: US 5719039 A

TITLE: Enzyme-surfactant ion-pair complex catalyzed reactions in organic solvents

DATE-ISSUED: February 17, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Dordick; Jonathan S.	Iowa City	IA		
Paradkar; Vikram M.	Madison	WI		

US-CL-CURRENT: 435/41; 435/182, 435/183, 435/195, 435/213, 435/68.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 10. Document ID: US 5707648 A

L7: Entry 10 of 21 File: USPT Jan 13, 1998

US-PAT-NO: 5707648
DOCUMENT-IDENTIFIER: US 5707648 A
**** See image for Certificate of Correction ****

TITLE: Transparent liquid for encapsulated drug delivery

DATE-ISSUED: January 13, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yiv; Seang H.	Wilmington	DE		

US-CL-CURRENT: 424/450; 264/4.1, 428/402.21

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 11. Document ID: US 5693516 A

L7: Entry 11 of 21 File: USPT Dec 2, 1997

US-PAT-NO: 5693516
DOCUMENT-IDENTIFIER: US 5693516 A

TITLE: Method for solubilizing proteins in organic solvents

DATE-ISSUED: December 2, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Blinkovsky; Alexander	Davis	CA		

US-CL-CURRENT: 435/188; 530/402, 530/422

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 12. Document ID: US 5688761 A

L7: Entry 12 of 21 File: USPT Nov 18, 1997

US-PAT-NO: 5688761
DOCUMENT-IDENTIFIER: US 5688761 A
**** See image for Certificate of Correction ****

TITLE: Convertible microemulsion formulations

DATE-ISSUED: November 18, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Owen; Albert J.	West Chester	PA		
Yiv; Seang H.	Wilmington	DE		
Sarkahian; Ani B.	Bryn Mawr	PA		

US-CL-CURRENT: 514/2; 424/193.1, 424/400, 424/94.3, 514/12, 514/13

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 13. Document ID: US 5646109 A

L7: Entry 13 of 21 File: USPT Jul 8, 1997

US-PAT-NO: 5646109
DOCUMENT-IDENTIFIER: US 5646109 A

TITLE: Convertible microemulsion formulations

DATE-ISSUED: July 8, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Owen; Albert J.	West Chester	PA		
Yiv; Seang H.	Wilmington	DE		

US-CL-CURRENT: 514/2; 424/400, 514/12, 514/937

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 14. Document ID: US 5637307 A

L7: Entry 14 of 21 File: USPT Jun 10, 1997

US-PAT-NO: 5637307
DOCUMENT-IDENTIFIER: US 5637307 A

TITLE: Method of immersion sterilization and organic cold chemical sterilant

DATE-ISSUED: June 10, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Simmons; Paul L.	Gulfport	FL	33707	
Immekus; Robert L.	Tampa	FL	33604	

US-CL-CURRENT: 424/405; 422/20, 422/28

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 15. Document ID: US 5633226 A

L7: Entry 15 of 21 File: USPT May 27, 1997

US-PAT-NO: 5633226
DOCUMENT-IDENTIFIER: US 5633226 A

TITLE: Convertible microemulsion formulations

DATE-ISSUED: May 27, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Owen; Albert J.	West Chester	PA		
Yiv; Seang H.	Wilmington	DE		

US-CL-CURRENT: 514/2; 424/193.1, 424/400, 514/784, 514/937

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 16. Document ID: US 5582700 A

L7: Entry 16 of 21 File: USPT Dec 10, 1996

US-PAT-NO: 5582700
DOCUMENT-IDENTIFIER: US 5582700 A

TITLE: Electrophoretic display utilizing phase separation of liquids

DATE-ISSUED: December 10, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bryning; Zbigniew	Campbell	CA		
Cromer; Remy	San Jose	CA		

US-CL-CURRENT: 204/450; 204/600, 345/105, 345/107

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 17. Document ID: US 5444041 A

L7: Entry 17 of 21 File: USPT Aug 22, 1995

US-PAT-NO: 5444041
DOCUMENT-IDENTIFIER: US 5444041 A

TITLE: Convertible microemulsion formulations

DATE-ISSUED: August 22, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Owen; Albert J.	West Chester	PA		
Yiv; Seang H.	Wilmington	DE		
Sarkahian; Ani B.	Bryn Mawr	PA		

US-CL-CURRENT: 514/2; 424/193.1, 424/400, 424/94.3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 18. Document ID: US 5059574 A

L7: Entry 18 of 21 File: USPT Oct 22, 1991

US-PAT-NO: 5059574
DOCUMENT-IDENTIFIER: US 5059574 A

TITLE: Moderated ruthenium fischer-tropsch synthesis catalyst

DATE-ISSUED: October 22, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Abrevaya; Hayim	Wilmette	IL		

US-CL-CURRENT: 502/261; 502/325, 502/332

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 19. Document ID: US 4945116 A

L7: Entry 19 of 21 File: USPT Jul 31, 1990

US-PAT-NO: 4945116
DOCUMENT-IDENTIFIER: US 4945116 A

TITLE: Fischer-Tropsch synthesis process employing a moderated ruthenium catalyst

DATE-ISSUED: July 31, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Abrevaya; Hayim	Wilmette	IL		

US-CL-CURRENT: 518/715

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 20. Document ID: US 4714693 A

L7: Entry 20 of 21 File: USPT Dec 22, 1987

US-PAT-NO: 4714693
DOCUMENT-IDENTIFIER: US 4714693 A

TITLE: Method of making a catalyst composition comprising uniform size metal components on carrier

DATE-ISSUED: December 22, 1987

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Targos; William M.	Palatine	IL		

US-CL-CURRENT: 502/261; 502/258, 502/325, 502/332, 502/333, 502/334, 502/339

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 21. Document ID: US 4714692 A

L7: Entry 21 of 21 File: USPT Dec 22, 1987

US-PAT-NO: 4714692
DOCUMENT-IDENTIFIER: US 4714692 A

TITLE: Microemulsion impregnated catalyst composite and use thereof in a synthesis gas conversion process

DATE-ISSUED: December 22, 1987

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Abrevaya; Hayim	Chicago	IL		
Targos; William M.	Palatine	IL		

US-CL-CURRENT: 502/261; 427/217, 502/263, 502/300, 502/325, 502/332, 502/523, 516/21, 516/30, 518/715

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

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Terms	Documents
L3 and (dodecyl adj1 sulfate)	21

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DATE: Wednesday, June 09, 2004

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☐	L7	L3 and (dodecyl adj1 sulfate)	21
☐	L6	L3 and ddab	8
☐	L5	L3 ddab	412
☐	L4	L3 and dotac	0
☐	L3	L1 and ($ionic adj3 surfactant$)	103
☐	L2	L1 and (topical$ or transdermal$)	56
☐	L1	reverse adj1 micelle$	339

END OF SEARCH HISTORY

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DATE: Wednesday, June 09, 2004

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☐	L7	L3 and (dodecyl adj1 sulfate)	21
☐	L6	L3 and ddab	8
☐	L5	L3 ddab	412
☐	L4	L3 and dotac	0
☐	L3	L1 and ($ionic adj3 surfactant$)	103
☐	L2	L1 and (topical$ or transdermal$)	56
☐	L1	reverse adj1 micelle$	339

END OF SEARCH HISTORY

L1: Entry 11 of 69 File: USPT Nov 5, 2002

DOCUMENT-IDENTIFIER: US 6475968 B1
TITLE: Carbohydrate containing cleaning surfactant and method for using the same

Brief Summary Text (5):
Typically, dry-cleaning systems use organic solvents, like chlorofluorocarbons, perchloroethylene and branched hydrocarbons to remove contaminants from substrates. In response to environmental concerns, other dry-cleaning systems have been developed that use inorganic solvents, such as densified carbon dioxide, to remove contaminants from substrates. The systems that use carbon dioxide to remove contaminants from substrates generally employ a surfactant and a polar co-solvent so that a reverse micelle may be formed to trap the contaminant targeted for removal.

Brief Summary Text (41):
In addition to continuous phase solvent and the surfactant described in this invention, it is especially preferred to add from about 0.01% to about 10.0%, and preferably, from about 0.03 to about 3.0%, and; most preferably, from about 0.05 to about 0.3% by weight of a polar additive (e.g., C.sub.1-10 alcohol and preferably water) based on total weight of continuous phase solvent, surfactant and polar additive, including all ranges subsumed therein. The addition of polar additive to the continuous phase solvent and surfactant is often desired so that cleaning may be enhanced, for example, by the formation of reverse micelles.

CLAIMS:

10. The method for dry cleaning a fabric according to claim 9 in wherein the polar additive is water, and a reverse micelle is formed.

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L1: Entry 21 of 69 File: USPT Jan 23, 2001

US-PAT-NO: 6177088
DOCUMENT-IDENTIFIER: US 6177088 B1

TITLE: Surface-functionalized, probe-containing nanospheres

DATE-ISSUED: January 23, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Guo; Congyuan	Columbia	MO		
Thomas; Rhys N.	Fayette	MO		

US-CL-CURRENT: 424/400; 424/1.53, 428/407

CLAIMS:

What is claimed is:

1. A nanometer-scale bead, having an essentially spherical shape and a diameter of from about 10 nm to about 50 nm, said nanosphere comprising:

a nanometer-scale probe ion core, formed from an ionic salt consisting of any water soluble inorganic anion or cation having a labile counterion;

a molecular layer of a first anionic surfactant, surrounding said probe ion core;

a molecular layer of a second anionic surfactant, surrounding said probe ion core and said first aninic surfactant layer such that the surfactant molecules of said second surfactant are oriented tail-to-tail with the molecules of said first surfactant;

a semi-permeable polymer shell, being formed of polymer chains formed from a polymerizable organic monomer by the addition of an initiator, and encasing said probe ion core within said shell; and

a first organic acid having an acid functionality, a terminal olefin and a spacer of at least 5 .ANG. between the acid functionality and the olefin, said first organic acid being incorporated into the polymer chains of said polymer shell,

the nanosphere being formed by the steps of:

(a) dispersing said first anionic surfactant in a non-polar organic solvent;

(b) dispersing said second anionic surfactant in an aqueous solution;

(c) adding a concentrated aqueous solution of said ionic salt to said surfactant-containing organic solvent, allowing said salt to be dispersed into said first surfactant to form a reverse micelle;

(d) adding said surfactant-containing organic solvent to said surfactant-containing aqueous solution, and allowing the reverse micelle to be dispersed into said second surfactant to form a double micelle;

(e) evaporating said organic solvent away from said aqueous solution containing said double micelles,

(f) adding to said double-micelle-containing aqueous solution said polymerizable monomer and said first organic acid having an acid functionality, a terminal olefin, and a spacer of at least 5 .ANG.;

(g) then adding to said aqueous solution said initiator, and activating said initiator, while mixing said aqueous solution, and allowing a polymerization reaction to proceed until the reaction is essentially complete and said double micelles are encapsulated in polymer shells to form nanospheres wherein each nanosphere has a diameter of from about 10 nanometers to about 50 nanometers; and

(h) removing said aqueous solution from the nanospheres.

2. The nanosphere as recited in claim 1, wherein said probe ion core is produced by adding a base to said organic solvent after formation of the reverse micelles from said first surfactant and said ionic salt.

3. The nanosphere as recited in claim 1, wherein said ionic salt is selected from the group consisting of dysprosium(III) chloride, europium(III) chloride, gadolinium(III) chloride, iron(II) chloride, iron(III) chloride, niobium(V) chloride, osmium(III) chloride, ruthenium(III) chloride, samarium(III) chloride, tantalum(V) chloride, terbium (III) chloride, and combinations thereof.

4. The nanosphere as recited in claim 1, wherein said ionic salt is selected from the group consisting of sodium metaborates, sodium arsenates, sodium silicates, and combinations thereof.

5. The nanosphere as recited in claim 1, wherein said first anionic surfactant is selected from the group consisting of sodium dodecyl sulfate, sodium dioctyl sulfosuccinate, and combinations thereof.

6. The nanosphere as recited in claim 1, wherein said second anionic surfactant is selected from the group consisting of sodium dodecyl sulfate, sodium dioctyl sulfosuccinate, and combinations thereof.

7. The nanosphere as recited in claim 1, wherein said polymerizable monomer is styrene, methyl methacrylate, and combinations thereof.

8. The nanosphere as recited in claim 1, wherein said polymer shell is formed by adding cross-linking agents to said aqueous solution containing said monomer and said first organic acid.

9. The nanosphere as recited in claim 1 wherein the spacer of said first organic acid includes at

least four carbon atoms.

10. The nanosphere as recited in claim 9, wherein the spacer is a phenyl ring.

11. The nanosphere as recited in claim 1, wherein said first organic acid is selected from the group consisting of 4-vinyl benzoic acid, citronellic acid, and combinations thereof.

12. The nanosphere as recited in claim 1, further including a second organic acid, having an acid functionality and a terminal olefin, said second acid being added to said aqueous solution with said first organic acid.

13. The nanosphere as recited in claim 12, wherein said second organic acid is methacrylic acid.

14. The nanosphere as recited in claim 1, further including an ester, having an ester functionality and a terminal olefin, said ester being added to said aqueous solution with said first organic acid.

15. The nanosphere as recited in claim 1, further including an organic alcohol, having an alcohol functionality and a terminal olefin, said alcohol being added to said aqueous solution with said first organic acid.

16. A nanometer-scale bead, having an essentially spherical shape and a diameter of from about 10 nm to about 50 nm, said nanosphere comprising:

a nanometer-scale probe ion core, formed from an ionic salt consisting of any water soluble inorganic anion or cation having a labile counterion;

a molecular layer of a first anionic surfactant, surrounding said probe ion core, wherein said first anionic surfactant is selected from the group consisting of sodium dodecyl sulfate, sodium dioctyl sulfosuccinate, and combinations thereof;

a molecular layer of a second anionic surfactant, surrounding said probe ion core and said first anionic surfactant layer such that the surfactant molecules of said second surfactant are oriented tail-to-tail with the molecules of said first surfactant, wherein said second anionic surfactant is selected from the group consisting of sodium dodecyl sulfate, sodium dioctyl sulfosuccinate, and combinations thereof;

a semi-permeable polymer shell, being formed of polymer chains formed from a polymerizable organic monomer by the addition of an initiator, and encasing said probe ion core within said shell;

a first organic acid having an acid functionality, a terminal olefin and a spacer of at least 5 .ANG. between the acid functionality and the olefin, wherein said first organic acid is selected from the group consisting of 4-vinyl benzoic acid, citronellic acid, and combination thereof, said fist organic acid being incorporated into the polymer chains of said polymer shell;

a second organic acid having an acid functionality and a terminal olefin, being incorporated into the polymer chains of said shell;

an ester, having an ester functionality and a terminal olefin, being incorporated into the polymer chains of said shell; and

an organic alcohol, having an alcohol functionality and a terminal olefin, being incorporated into the polymer chains of said shell,

the nanosphere being formed by the steps of:

(a) dispersing said first anionic surfactant in a non-polar organic solvent;

(b) dispersing said second anionic surfactant in an aqueous solution;

(c) adding a concentrated aqueous solution of said ionic salt to said surfactant-containing organic solvent, allowing said salt to be dispersed into said first surfactant to form a reverse micelle;

(d) adding said surfactant-containing organic solvent to said surfactant-containing aqueous solution, and allowing the reverse micelle to be dispersed into said second surfactant to form a double micelle;

(e) evaporating said organic solvent away from said aqueous solution containing said double micelles;

(f) adding to said aqueous solution said polymerizable monomer, said first organic acid, said second organic acid, said ester, and said alcohol;

(g) then adding to said aqueous solution said initiator, and activating said initiator, while mixing said aqueous solution, and allowing a polymerization reaction to proceed until the reaction is essentially complete and said double micelles are encapsulated in polymer shells to form nanospheres wherein each nanosphere has a diameter of or about 10 nanometers to about 50 nanometers; and

(h) removing said aqueous solution from the nanospheres.

17. A method of making a nanometer-scale bead, having an essentially spherical shape and a diameter of from about 10 nm to abut 50 nm, comprising the steps of:

making a surfactant-containing organic solvent by dispersing a first anionic surfactant in a non-polar organic solvent;

making a surfactant-containing aqueous solution by dispersing a second anionic surfactant in an aqueous solution;

adding a concentrated aqueous solution of said ionic salt to said surfactant-containing organic solvent, allowing said salt to be dispersed into said first surfactant to form a reverse micelle;

adding said surfactant-containing organic solvent to said surfactant-containing aqueous solution, and allowing the reverse micelle to be dispersed into said second surfactant to form a double micelle wherein the surfactant molecules of said second surfactant are oriented tail-to-tail wit the molecules of said first surfactant;

evaporating said organic solvent away from said aqueous solution containing said double

micelles;

adding to said aqueous solution a polymerizable organic monomer, and a first organic acid having an acid functionality, a terminal olefin, and a spacer of at least 5 .ANG.;

then adding to said aqueous solution an initiator, then activating said initiator while mixing said aqueous solution, and allowing a polymerization reaction to proceed until the reaction is essentially complete and said double micelles are encapsulated in polymer shells to form nanospheres wherein each nanosphere has a diameter of from about 10 nanometers to about 50 nanometers; and

removing said aqueous solution from the nanospheres.

18. The method of making a nanosphere as recited in claim 17 further including the step of adding a second organic acid having an acid functionality and a terminal olefin, to said aqueous solution, after evaporating said organic solvent and before adding said initiator.

19. The method of making a nanosphere as recited in claim 17 further including the step of adding an ester, having an ester functionality and a terminal olefin, to said aqueous solution, after evaporating said organic solvent and before adding said initiator.

20. The method of making a nanosphere as recited in claim 17 further including the step of adding an organic alcohol having an alcohol functionality and a terminal olefin, to said aqueous solution, after evaporating said organic solvent and before adding said initiator.

21. The method of making a nanosphere as recited in claim 17 further including the step of adding a base to said organic solvent after adding said particles and before adding said organic solvent to said aqueous solution.

22. The nanosphere as recited in claim 16, wherein said probe ion core is produced by adding a base to said organic solvent after formation of the reverse micelles from said first surfactant and said ionic salt.

23. The nanosphere as recited in claim 16 wherein said ionic salt is selected from the group consisting of dysprosium(III) chloride, europium(III) chloride, gadolinium(III) chloride, iron(II) chloride, iron(III) chloride, niobium(V) chloride, osmium(III) chloride, ruthenium(III) chloride, samarium(III) chloride, tantalum(V) chloride, terbium (III) chloride, and combinations thereof.

24. The nanosphere as recited in claim 16 wherein said ionic salt is selected from the group consisting of sodium metaborates, sodium arsenates, sodium silicates, and combinations thereof.

25. The nanosphere as recited in claim 16 wherein said monomer is styrene, methyl methacrylate, and combinations thereof.

26. The nanosphere as recited in claim 16 wherein said polymer shell is formed by adding cross-linking agents to said aqueous solution containing said monomer and said first organic acid.

27. The nanosphere as recited in claim 16 wherein the spacer of said first organic acid includes at least four carbon atoms.

28. The nanosphere as recited in claim 27, wherein the spacer is a phenyl ring.

29. The nanosphere as recited in claim 16 wherein said second organic acid is methacrylic acid.

L1: Entry 28 of 69 File: USPT Aug 4, 1998

DOCUMENT-IDENTIFIER: US 5789505 A
TITLE: Surfactants for use in liquid/supercritical CO.sub.2

Brief Summary Text (4):
Hoefling et al., J. Phys. Chem., 95, 7127 (1991) noted that alkyl-functionalized amphiphiles are not effective in producing microemulsions in CO.sub.2 whereas with alkane supercritical fluids they are effective. They noted that fluorinated alkanes are much more effective in CO.sub.2 than conventional alkanes for surfactants in CO.sub.1 /water systems. Fulton et al., U.S. Pat. No. 5,266,205, disclosed a method of separating a solute from a polar fluid by contacting the solution with a near critical or supercritical fluid and a surfactant. A reverse micelle is formed whereby the continuous phase is a supercritical fluid, and the discontinuous phase is the polar fluid (immiscible with the supercritical fluid) surrounded by surfactant. The solute is transferred to the micelle for removal.

Brief Summary Text (5):
Matson et al., U.S. Pat. No. 5,238,671 describe conducting chemical reactions in a reverse micelle or microemulsion system comprised of a polar fluid as a discontinuous phase, a continuous phase of a water insoluble fluid at near critical or supercritical conditions, and a surfactant. In the examples, supercritical propane, water, and sodium bis(2-ethyl hexyl) sulfosuccinate) comprised the continuous phase, the discontinuous phase, and the surfactant respectively.

WEST Search History

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DATE: Wednesday, June 09, 2004

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☐	L6	(reverse adj1 micelle$) and capsule	34
☐	L5	(reverse adj1 micelle$) same capsule	2
☐	L4	(reverse adj1 micelle$) and tablet	30
☐	L3	(reverse adj1 micelle$) same tablet	2
☐	L2	L1 and (tablet$)	1
☐	L1	(reverse adj1 micelle$) same polar	69

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Search Results - Record(s) 1 through 30 of 69 returned.

☐ 1. Document ID: US 6676951 B1

Using default format because multiple data bases are involved.

L1: Entry 1 of 69 File: USPT Jan 13, 2004

US-PAT-NO: 6676951
DOCUMENT-IDENTIFIER: US 6676951 B1

TITLE: Host-guest processes and formulations for delivering bio-affecting compounds

DATE-ISSUED: January 13, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Champ; Charles Walton	San Antonio	TX	78232	
Kinzer; Karen June	San Antonio	TX	78232	

US-CL-CURRENT: 424/400; 424/404, 428/402

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 2. Document ID: US 6673612 B2

L1: Entry 2 of 69 File: USPT Jan 6, 2004

US-PAT-NO: 6673612
DOCUMENT-IDENTIFIER: US 6673612 B2

TITLE: Micellar systems

DATE-ISSUED: January 6, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Monahan; Sean D.	Madison	WI		
Wolff; Jon A.	Madison	WI		
Slattum; Paul M.	Madison	WI		
Hagstrom; James E.	Middleton	WI		
Budker; Vladimir G.	Middleton	WI		

US-CL-CURRENT: 435/458; 424/450, 435/455, 514/2, 514/44

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 3. Document ID: US 6660715 B2

L1: Entry 3 of 69 File: USPT Dec 9, 2003

US-PAT-NO: 6660715
DOCUMENT-IDENTIFIER: US 6660715 B2

TITLE: Nonaqueous solutions and suspensions of macromolecules for pulmonary delivery

DATE-ISSUED: December 9, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Klibanov; Alexander M.	Newton	MA		

US-CL-CURRENT: 514/2; 514/44

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 4. Document ID: US 6638749 B1

L1: Entry 4 of 69 File: USPT Oct 28, 2003

US-PAT-NO: 6638749
DOCUMENT-IDENTIFIER: US 6638749 B1

TITLE: Carbon dioxide soluble surfactant having two fluoroether CO2-philic tail groups and a head group

DATE-ISSUED: October 28, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Beckman; Eric J.	Edgewood	PA		
Ghenciu; Eliador J.	Pittsburgh	PA		
Becker; Nathaniel T.	Burlingame	CA		
Steele; Landon M.	Brisbane	CA		
Russell; Alan J.	Wexford	PA		

US-CL-CURRENT: 435/212; 435/183, 435/41, 530/422

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 5. Document ID: US 6623530 B2

L1: Entry 5 of 69 File: USPT Sep 23, 2003

US-PAT-NO: 6623530
DOCUMENT-IDENTIFIER: US 6623530 B2

TITLE: Dry-cleaning solvent and method for using the same

DATE-ISSUED: September 23, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murphy; Dennis Stephen	Wyckoff	NJ		

US-CL-CURRENT: 8/142; 510/285, 510/475

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 6. Document ID: US 6562605 B1

L1: Entry 6 of 69 File: USPT May 13, 2003

US-PAT-NO: 6562605
DOCUMENT-IDENTIFIER: US 6562605 B1

TITLE: Extraction of water soluble biomaterials from fluids using a carbon dioxide/surfactant mixture

DATE-ISSUED: May 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Beckman; Eric J.	Edgewood	PA		
Ghenciu; Eliador J.	Pittsburgh	PA		
Becker; Nathaniel T.	Burlingame	CA		
Steele; Landon M.	Brisbane	CA		

US-CL-CURRENT: 435/183; 435/112, 435/814, 530/412, 530/422

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 7. Document ID: US 6548466 B1

L1: Entry 7 of 69 File: USPT Apr 15, 2003

US-PAT-NO: 6548466
DOCUMENT-IDENTIFIER: US 6548466 B1

TITLE: Heterocyclic dry-cleaning surfactant and method for using the same

DATE-ISSUED: April 15, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murphy; Dennis Stephen	Wyckoff	NJ		
Ahart; Robert Joseph	Mahwah	NJ		

US-CL-CURRENT: 510/285; 510/405, 510/407, 510/466, 510/500, 8/142

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 8. Document ID: US 6548264 B1

L1: Entry 8 of 69 File: USPT Apr 15, 2003

US-PAT-NO: 6548264
DOCUMENT-IDENTIFIER: US 6548264 B1

TITLE: Coated nanoparticles

DATE-ISSUED: April 15, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tan; Weihong	Gainesville	FL		
Santra; Swadeshmukul	Gainesville	FL		
Zhang; Peng	Gainesville	FL		
Tapec; Rovelyn	Gainesville	FL		
Dobson; Jon	Stroke-on-Trent			GB

US-CL-CURRENT: 435/7.21; 428/402, 428/402.2, 428/402.24, 428/403, 428/404, 428/405, 435/6, 435/7.5, 436/524, 436/525, 436/526, 436/527

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 9. Document ID: US 6514294 B1

L1: Entry 9 of 69 File: USPT Feb 4, 2003

US-PAT-NO: 6514294
DOCUMENT-IDENTIFIER: US 6514294 B1

TITLE: Dry cleaning system and process for producing softer fabrics

DATE-ISSUED: February 4, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murphy; Dennis Stephen	Wyckoff	NJ		

US-CL-CURRENT: 8/142; 510/466

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 10. Document ID: US 6482784 B2

L1: Entry 10 of 69 File: USPT Nov 19, 2002

US-PAT-NO: 6482784
DOCUMENT-IDENTIFIER: US 6482784 B2

TITLE: Dry cleaning composition containing a heterocyclic surfactant

DATE-ISSUED: November 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murphy; Dennis Stephen	Wyckoff	NJ		
Ahart; Robert Joseph	Mahwah	NJ		

US-CL-CURRENT: 510/285; 510/405, 510/407, 510/432, 510/466, 510/500

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 11. Document ID: US 6475968 B1

L1: Entry 11 of 69 File: USPT Nov 5, 2002

US-PAT-NO: 6475968
DOCUMENT-IDENTIFIER: US 6475968 B1

TITLE: Carbohydrate containing cleaning surfactant and method for using the same

DATE-ISSUED: November 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murphy; Dennis Stephen	Wyckoff	NJ		
Binder; David Alan	Saddle Brook	NJ		

US-CL-CURRENT: 510/285; 510/470, 8/142, 8/149.1, 8/149.2, 8/158, 8/159

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 12. Document ID: US 6429200 B1

L1: Entry 12 of 69 File: USPT Aug 6, 2002

US-PAT-NO: 6429200
DOCUMENT-IDENTIFIER: US 6429200 B1

TITLE: Reverse micelles for delivery of nucleic acids

DATE-ISSUED: August 6, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Monahan; Sean D.	Madison	WI		
Wolff; Jon A.	Madison	WI		
Slattum; Paul M.	Madison	WI		
Hagstrom; James E.	Madison	WI		
Budker; Vladimir G.	Madison	WI		

US-CL-CURRENT: 514/44; 424/450, 435/455, 435/458, 536/23.1

☐ 13. Document ID: US 6409909 B1

L1: Entry 13 of 69 File: USPT Jun 25, 2002

US-PAT-NO: 6409909
DOCUMENT-IDENTIFIER: US 6409909 B1

TITLE: Modular sensor system for the industrial process measurement technique

DATE-ISSUED: June 25, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Spichiger-Keller; Ursula	Au			CH
Muller; Jurg	Olten			CH

US-CL-CURRENT: 205/777.5; 204/403.01, 204/403.14, 204/409, 204/411, 205/787, 205/789, 422/58, 422/82.01

☐ 14. Document ID: US 6369014 B1

L1: Entry 14 of 69 File: USPT Apr 9, 2002

US-PAT-NO: 6369014
DOCUMENT-IDENTIFIER: US 6369014 B1

TITLE: Dry cleaning system comprising carbon dioxide solvent and carbohydrate containing cleaning surfactant

DATE-ISSUED: April 9, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murphy; Dennis Stephen	Wyckoff	NJ		
Binder; David Alan	Saddle Brook	NJ		

US-CL-CURRENT: 510/285; 510/470, 8/142, 8/149.1, 8/149.2, 8/158, 8/159

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 15. Document ID: US 6325995 B1

L1: Entry 15 of 69 File: USPT Dec 4, 2001

US-PAT-NO: 6325995
DOCUMENT-IDENTIFIER: US 6325995 B1
**** See image for Certificate of Correction ****

TITLE: Lipsticks compositions containing association structures

DATE-ISSUED: December 4, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
El-Nokaly; Magda	Cincinnati	OH		
Walling; David William	Parkton	MD		
Vatter; Michael L.	Okeana	OH		
Leatherbury; Neil Campbell	Baltimore	MD		

US-CL-CURRENT: 424/64; 424/450, 424/63

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 16. Document ID: US 6313079 B1

L1: Entry 16 of 69 File: USPT Nov 6, 2001

US-PAT-NO: 6313079
DOCUMENT-IDENTIFIER: US 6313079 B1

TITLE: Heterocyclic dry-cleaning surfactant and method for using the same

DATE-ISSUED: November 6, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murphy; Dennis Stephen	Wyckoff	NJ		

US-CL-CURRENT: 510/285; 510/405, 510/407, 510/500

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 17. Document ID: US 6309425 B1

L1: Entry 17 of 69 File: USPT Oct 30, 2001

US-PAT-NO: 6309425
DOCUMENT-IDENTIFIER: US 6309425 B1

TITLE: Cleaning composition and method for using the same

DATE-ISSUED: October 30, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murphy; Dennis Stephen	Leonia	NJ		

US-CL-CURRENT: 8/142; 510/282, 510/285

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 18. Document ID: US 6264726 B1

L1: Entry 18 of 69 File: USPT Jul 24, 2001

US-PAT-NO: 6264726
DOCUMENT-IDENTIFIER: US 6264726 B1

TITLE: Method of filtering a target compound from a first solvent that is above its critical density

DATE-ISSUED: July 24, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Phelps; Max R.	Richland	WA		
Yonker; Clement R.	Kennewick	WA		
Fulton; John L.	Richland	WA		
Bowman; Lawrence E.	Richland	WA		

US-CL-CURRENT: 95/45; 95/50

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 19. Document ID: US 6258130 B1

L1: Entry 19 of 69 File: USPT Jul 10, 2001

US-PAT-NO: 6258130
DOCUMENT-IDENTIFIER: US 6258130 B1

TITLE: Dry-cleaning solvent and method for using the same

DATE-ISSUED: July 10, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Murphy; Dennis Stephen	Wyckoff	NJ		

US-CL-CURRENT: 8/142; 510/285, 510/475

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 20. Document ID: US 6238930 B1

L1: Entry 20 of 69 File: USPT May 29, 2001

US-PAT-NO: 6238930
DOCUMENT-IDENTIFIER: US 6238930 B1

TITLE: Layer structure for determination of analyte concentration based on micellar recognition system

DATE-ISSUED: May 29, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Spichiger-Keller; Ursula	Au-Wadenswil			CH
Vaillo; Eva	Zurich			CH

US-CL-CURRENT: 436/518; 422/55, 422/57, 422/58, 435/287.1, 435/287.2, 435/287.9, 435/5, 435/7.21, 435/7.32, 435/7.4, 435/969, 436/514, 436/528, 436/529, 436/535, 436/71

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 21. Document ID: US 6177088 B1

L1: Entry 21 of 69 File: USPT Jan 23, 2001

US-PAT-NO: 6177088
DOCUMENT-IDENTIFIER: US 6177088 B1

TITLE: Surface-functionalized, probe-containing nanospheres

DATE-ISSUED: January 23, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Guo; Congyuan	Columbia	MO		
Thomas; Rhys N.	Fayette	MO		

US-CL-CURRENT: 424/400; 424/1.53, 428/407

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 22. Document ID: US 5961804 A

L1: Entry 22 of 69 File: USPT Oct 5, 1999

US-PAT-NO: 5961804
DOCUMENT-IDENTIFIER: US 5961804 A

TITLE: Microencapsulated electrophoretic display

DATE-ISSUED: October 5, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Jacobson; Joseph	Cambridge	MA		
Comiskey; Barrett	Cambridge	MA		
Albert; Jonathan	Cambridge	MA		

US-CL-CURRENT: 204/606; 204/450, 359/296

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 23. Document ID: US 5928957 A

L1: Entry 23 of 69 File: USPT Jul 27, 1999

US-PAT-NO: 5928957
DOCUMENT-IDENTIFIER: US 5928957 A

TITLE: Determination of analyte concentration based on a micellar recognition system and structured layers therefor

DATE-ISSUED: July 27, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Spichiger-Keller; Ursula	Au-Wadenswil			CH
Vaillo; Eva	Zurich			CH

US-CL-CURRENT: 436/518; 435/5, 435/7.21, 435/7.32, 435/7.4, 435/969, 436/514, 436/528, 436/535, 436/71, 436/829

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw D

☐ 24. Document ID: US 5872257 A

L1: Entry 24 of 69 File: USPT Feb 16, 1999

US-PAT-NO: 5872257
DOCUMENT-IDENTIFIER: US 5872257 A

TITLE: Further extractions of metals in carbon dioxide and chelating agents therefor

DATE-ISSUED: February 16, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Beckman; Eric J.	Edwood	PA		
Russell; Alan J.	Wexford	PA		

US-CL-CURRENT: 546/336; 210/634, 526/247, 544/272, 546/255, 546/262, 546/335

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 25. Document ID: US 5843407 A

L1: Entry 25 of 69 File: USPT Dec 1, 1998

US-PAT-NO: 5843407
DOCUMENT-IDENTIFIER: US 5843407 A
** See image for Certificate of Correction **

TITLE: Non-sweating lipsticks

DATE-ISSUED: December 1, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
El-Nokaly; Magda	Cincinnati	OH		
Vatter; Michael Lee	Okeana	OH		
Walling; David William	Parkton	MD		
Leatherbury; Neil Campbell	Baltimore	MD		
Peterson; Cheryl Lynn	Cincinnati	OH		

US-CL-CURRENT: 424/64; 252/299.01, 424/63, 424/DIG.5

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 26. Document ID: US 5814678 A

L1: Entry 26 of 69 File: USPT Sep 29, 1998

US-PAT-NO: 5814678
DOCUMENT-IDENTIFIER: US 5814678 A
** See image for Certificate of Correction **

TITLE: Chemical reactions in water-in-carbon dioxide microemulsions and control thereof

DATE-ISSUED: September 29, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Randolph; Theodore W.	Niwot	CO		

US-CL-CURRENT: 522/18; 423/610, 522/20, 522/23, 526/216, 526/309, 526/89

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 27. Document ID: US 5801092 A

L1: Entry 27 of 69 File: USPT Sep 1, 1998

US-PAT-NO: 5801092
DOCUMENT-IDENTIFIER: US 5801092 A

TITLE: Method of making two-component nanospheres and their use as a low dielectric constant material for semiconductor devices

DATE-ISSUED: September 1, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ayers; Michael R.	El Cerrito	CA	94530	

US-CL-CURRENT: 438/623; 257/E21.266, 257/E21.273, 257/E21.576, 427/204, 427/214, 427/96, 438/624, 438/778, 438/781

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 28. Document ID: US 5789505 A

L1: Entry 28 of 69 File: USPT Aug 4, 1998

US-PAT-NO: 5789505
DOCUMENT-IDENTIFIER: US 5789505 A

TITLE: Surfactants for use in liquid/supercritical CO.sub.2

DATE-ISSUED: August 4, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wilkinson; Steven Paul	Coopersburg	PA		
Schweighardt; Frank Kenneth	Allentown	PA		
Robeson; Lloyd Mahlon	Macungie	PA		

US-CL-CURRENT: 526/209; 427/421, 8/142

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 29. Document ID: US 5770172 A

L1: Entry 29 of 69 File: USPT Jun 23, 1998

US-PAT-NO: 5770172
DOCUMENT-IDENTIFIER: US 5770172 A

TITLE: Process of forming compounds using reverse micelle or reverse microemulsion systems

DATE-ISSUED: June 23, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Linehan; John C.	Richland	WA		
Fulton; John L.	Richland	WA		
Bean; Roger M.	Richland	WA		

US-CL-CURRENT: 423/561.1; 208/420, 423/558, 423/566, 423/633, 423/634, 502/338, 516/22, 516/25, 516/27, 516/30

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 30. Document ID: US 5766628 A

L1: Entry 30 of 69 File: USPT Jun 16, 1998

US-PAT-NO: 5766628
DOCUMENT-IDENTIFIER: US 5766628 A
**** See image for Certificate of Correction ****

TITLE: Bath and shower composition having vesicle-forming properties and method for the production and use thereof

DATE-ISSUED: June 16, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nurnberg; Eberhard	Uttenreuth			DE
Gassenmeier; Thomas	Nurnberg			DE
Beutler; Rolf Dieter	Hochst/Odenwald			DE
Ebinger; Jurgen	Hunstetten			DE

US-CL-CURRENT: 424/45; 424/70.31

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Terms	Documents
(reverse adj1 micelle$) same polar	69

Display Format: - Change Format

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Search Results - Record(s) 31 through 60 of 69 returned.

☐ 31. Document ID: US 5716639 A

Using default format because multiple data bases are involved.

L1: Entry 31 of 69 File: USPT Feb 10, 1998

US-PAT-NO: 5716639
DOCUMENT-IDENTIFIER: US 5716639 A

TITLE: Lipophilic carrier preparations

DATE-ISSUED: February 10, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Carlsson; Anders	Stockholm			SE
Herslof; Bengt	Stockholm			SE

US-CL-CURRENT: 424/450; 514/546, 514/547, 514/548, 514/549

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

☐ 32. Document ID: US 5714094 A

L1: Entry 32 of 69 File: USPT Feb 3, 1998

US-PAT-NO: 5714094
DOCUMENT-IDENTIFIER: US 5714094 A

TITLE: Antioxidant composition and process for the preparation thereof

DATE-ISSUED: February 3, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bertholet; Raymond	Blonay			CH
Colarow; Ladislas	Savigny			CH
Kusy; Andrej	Froideville			CH
Rivier; Vincent	Cheseaux			CH

US-CL-CURRENT: 252/403; 252/404, 252/405, 252/407, 426/312, 426/417, 426/432, 426/433, 426/434, 426/541, 426/542, 426/654

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 33. Document ID: US 5641887 A

L1: Entry 33 of 69 File: USPT Jun 24, 1997

US-PAT-NO: 5641887
DOCUMENT-IDENTIFIER: US 5641887 A
**** See image for Certificate of Correction ****

TITLE: Extraction of metals in carbon dioxide and chelating agents therefor

DATE-ISSUED: June 24, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Beckman; Eric J.	Edgewood	PA		
Russell; Alan J.	Wexford	PA		

US-CL-CURRENT: 546/262; 210/634, 526/247, 546/255, 546/335, 546/336

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 34. Document ID: US 5637307 A

L1: Entry 34 of 69 File: USPT Jun 10, 1997

US-PAT-NO: 5637307
DOCUMENT-IDENTIFIER: US 5637307 A

TITLE: Method of immersion sterilization and organic cold chemical sterilant

DATE-ISSUED: June 10, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Simmons; Paul L.	Gulfport	FL	33707	
Immekus; Robert L.	Tampa	FL	33604	

US-CL-CURRENT: 424/405; 422/20, 422/28

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 35. Document ID: US 5582700 A

L1: Entry 35 of 69 File: USPT Dec 10, 1996

US-PAT-NO: 5582700

DOCUMENT-IDENTIFIER: US 5582700 A

TITLE: Electrophoretic display utilizing phase separation of liquids

DATE-ISSUED: December 10, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bryning; Zbigniew	Campbell	CA		
Cromer; Remy	San Jose	CA		

US-CL-CURRENT: 204/450; 204/600, 345/105, 345/107

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 36. Document ID: US 5554785 A

L1: Entry 36 of 69 File: USPT Sep 10, 1996

US-PAT-NO: 5554785
DOCUMENT-IDENTIFIER: US 5554785 A
** See image for Certificate of Correction **

TITLE: Organotin catalyzed transesterification products

DATE-ISSUED: September 10, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Trapasso; Louise E.	West Long Branch	NJ		
Padegimas; Stanley J.	Memphis	TN		
Epstein; Peter F.	Neptune City	NJ		
Hung; Paul L. K.	Watchung	NJ		
Mukhopadhyay; Purnendu	Sayreville	NJ		
Meisel; Philip L.	Greenbrook	NJ		

US-CL-CURRENT: 560/201

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 37. Document ID: US 5532327 A

L1: Entry 37 of 69 File: USPT Jul 2, 1996

US-PAT-NO: 5532327
DOCUMENT-IDENTIFIER: US 5532327 A

TITLE: Random copolymers made by anionic polymerization, toners incorporating these copolymers and method for the manufacture thereof

DATE-ISSUED: July 2, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bayley; Robert D.	Fairport	NY		
Hoffend; Thomas R.	Webster	NY		
Fuller; Timothy J.	West Henrietta	NY		
Ahuja; Suresh K.	Webster	NY		

US-CL-CURRENT: 526/180; 526/335, 526/340

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 38. Document ID: US 5510247 A

L1: Entry 38 of 69 File: USPT Apr 23, 1996

US-PAT-NO: 5510247
DOCUMENT-IDENTIFIER: US 5510247 A

TITLE: Centrifugal multiphase systems and method for using the same

DATE-ISSUED: April 23, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Komives; Claire	Pittsburgh	PA		
Russell; Alan J.	Wexford	PA		

US-CL-CURRENT: 435/41; 435/262, 435/283.1, 435/289.1, 435/304.1, 435/813

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 39. Document ID: US 5498751 A

L1: Entry 39 of 69 File: USPT Mar 12, 1996

US-PAT-NO: 5498751
DOCUMENT-IDENTIFIER: US 5498751 A

TITLE: Organotin catalyzed transesterification

DATE-ISSUED: March 12, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Trapasso; Louis E.	West Long Branch	NJ		
Padegimas; Stanley J.	Sayreville	NJ		
Epstein; Peter F.	Neptune City	NJ		

Hung; Paul L. K.	Watchung	NJ
Mukhopadhyay; Purnendu	Sayreville	NJ
Meisel; Philip L.	Greenbrook	NJ

US-CL-CURRENT: 560/217

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 40. Document ID: US 5435170 A

L1: Entry 40 of 69 File: USPT Jul 25, 1995

US-PAT-NO: 5435170
DOCUMENT-IDENTIFIER: US 5435170 A
**** See image for Certificate of Correction ****

TITLE: Method and apparatus for fluid quality sensing

DATE-ISSUED: July 25, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Voelker; Paul J.	Fremont	CA	94536	
Hedges; Joe D.	Portola Valley	CA	94028	

US-CL-CURRENT: 73/53.05; 204/409, 205/775, 205/787, 324/449, 324/663, 324/698, 422/82.01, 422/82.02

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 41. Document ID: US 5387525 A

L1: Entry 41 of 69 File: USPT Feb 7, 1995

US-PAT-NO: 5387525
DOCUMENT-IDENTIFIER: US 5387525 A

TITLE: Method for activation of polyanionic fluorescent dyes in low dielectric media with quaternary onium compounds

DATE-ISSUED: February 7, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Munkholm; Christiane	Salem	MA		

US-CL-CURRENT: 436/111; 436/103, 436/163, 436/172

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 42. Document ID: US 5301664 A

L1: Entry 42 of 69 File: USPT Apr 12, 1994

US-PAT-NO: 5301664
DOCUMENT-IDENTIFIER: US 5301664 A

TITLE: Methods and apparatus for drug delivery using supercritical solutions

DATE-ISSUED: April 12, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sievers; Robert E.	Boulder	CO	80304	
Hybertson; Brooks M.	Boulder	CO	80302	
Hansen; Brian N.	Boulder	CO	80302	

US-CL-CURRENT: 128/200.23; 128/203.15, 222/207

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 43. Document ID: US 5266205 A

L1: Entry 43 of 69 File: USPT Nov 30, 1993

US-PAT-NO: 5266205
DOCUMENT-IDENTIFIER: US 5266205 A

TITLE: Supercritical fluid reverse micelle separation

DATE-ISSUED: November 30, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fulton; John L.	Richland	WA		
Smith; Richard D.	Richland	WA		

US-CL-CURRENT: 210/639; 210/656, 210/659, 530/413, 530/417

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 44. Document ID: US 5252450 A

L1: Entry 44 of 69 File: USPT Oct 12, 1993

US-PAT-NO: 5252450
DOCUMENT-IDENTIFIER: US 5252450 A

TITLE: Capped photochromic silver halides for incorporation into a plastic matrix

DATE-ISSUED: October 12, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schwerzel; Robert E.	Columbus	OH		
Spahr; Kevin B.	Worthington	OH		

US-CL-CURRENT: 430/567; 430/569, 430/601, 430/603, 430/611

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 45. Document ID: US 5238671 A

L1: Entry 45 of 69 File: USPT Aug 24, 1993

US-PAT-NO: 5238671
DOCUMENT-IDENTIFIER: US 5238671 A

TITLE: Chemical reactions in reverse micelle systems

DATE-ISSUED: August 24, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Matson; Dean W.	Kennewick	WA		
Fulton; John L.	Richland	WA		
Smith; Richard D.	Richland	WA		
Consani; Keith A.	Richland	WA		

US-CL-CURRENT: 423/397; 423/659, 516/22, 516/25, 516/925

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 46. Document ID: US 5158704 A

L1: Entry 46 of 69 File: USPT Oct 27, 1992

US-PAT-NO: 5158704
DOCUMENT-IDENTIFIER: US 5158704 A
**** See image for Certificate of Correction ****

TITLE: Supercritical fluid reverse micelle systems

DATE-ISSUED: October 27, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fulton; John L.	Richland	WA		
Smith; Richard D.	Richland	WA		

US-CL-CURRENT: 516/9; 210/643, 210/656, 252/183.11

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 47. Document ID: US 5084289 A

L1: Entry 47 of 69 File: USPT Jan 28, 1992

US-PAT-NO: 5084289
DOCUMENT-IDENTIFIER: US 5084289 A

TITLE: Method for the inhibition of oxidation of edible oils utilizing a fat soluble anti-oxidant and a water soluble anti-oxdant in a reverse micelle system

DATE-ISSUED: January 28, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Shin; Hyun-Kyung	Seoul			KR
Han; Dae-Seok	Seoul			KR
Yi; Ock-Sook	Seoul			KR

US-CL-CURRENT: 426/330.6; 424/439, 426/541, 514/844

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 48. Document ID: US 5059574 A

L1: Entry 48 of 69 File: USPT Oct 22, 1991

US-PAT-NO: 5059574
DOCUMENT-IDENTIFIER: US 5059574 A

TITLE: Moderated ruthenium fischer-tropsch synthesis catalyst

DATE-ISSUED: October 22, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Abrevaya; Hayim	Wilmette	IL		

US-CL-CURRENT: 502/261; 502/325, 502/332

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 49. Document ID: US 5017281 A

L1: Entry 49 of 69 File: USPT May 21, 1991

US-PAT-NO: 5017281
DOCUMENT-IDENTIFIER: US 5017281 A

TITLE: Treatment of carbonaceous materials

DATE-ISSUED: May 21, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sadeghi; Mohammad-Ali	Pasadena	CA		
Sadeghi; Kazem	Goleta	CA		
Kuo; Jih-Fen	Los Angeles	CA		
Jang; Long-Kuan	Long Beach	CA		
Yen; Teh F.	Altadena	CA		

US-CL-CURRENT: 208/390; 134/1, 208/391

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 50. Document ID: US 4997656 A

L1: Entry 50 of 69 File: USPT Mar 5, 1991

US-PAT-NO: 4997656
DOCUMENT-IDENTIFIER: US 4997656 A

TITLE: Adhesive for percutaneous administration

DATE-ISSUED: March 5, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Shikinami; Yasuo	Osaka			JP
Sasatani; Seiei	Osaka			JP

US-CL-CURRENT: 424/448; 424/449

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 51. Document ID: US 4945116 A

L1: Entry 51 of 69 File: USPT Jul 31, 1990

US-PAT-NO: 4945116
DOCUMENT-IDENTIFIER: US 4945116 A

TITLE: Fischer-Tropsch synthesis process employing a moderated ruthenium catalyst

DATE-ISSUED: July 31, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Abrevaya; Hayim	Wilmette	IL		

US-CL-CURRENT: 518/715

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 52. Document ID: US 4891131 A

L1: Entry 52 of 69 File: USPT Jan 2, 1990

US-PAT-NO: 4891131
DOCUMENT-IDENTIFIER: US 4891131 A

TITLE: Sonication method and reagent for treatment of carbonaceous materials

DATE-ISSUED: January 2, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sadeghi; Mohammad-Ali	Pasadena	CA		
Sadeghi; Kazem	Goleta	CA		
Kuo; Jih-Fen	Los Angeles	CA		
Jang; Long-Kuan	Long Beach	CA		
Yen; Teh Fu	Altadena	CA		

US-CL-CURRENT: 208/390; 208/391

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 53. Document ID: US 4765885 A

L1: Entry 53 of 69 File: USPT Aug 23, 1988

US-PAT-NO: 4765885
DOCUMENT-IDENTIFIER: US 4765885 A

TITLE: Treatment of carbonaceous materials

DATE-ISSUED: August 23, 1988

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sadeghi; Mohammad-Ali	Pasadena	CA		
Sadeghi; Kazem	Pasadena	CA		
Kuo; Jih-Fen	San Gabriel	CA		
Jang; Long-Kuan	Long Beach	CA		
Yen; Teh F.	Altadena	CA		

US-CL-CURRENT: 208/391; 208/390

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 54. Document ID: US 4714693 A

L1: Entry 54 of 69 File: USPT Dec 22, 1987

US-PAT-NO: 4714693
DOCUMENT-IDENTIFIER: US 4714693 A

TITLE: Method of making a catalyst composition comprising uniform size metal components on carrier

DATE-ISSUED: December 22, 1987

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Targos; William M.	Palatine	IL		

US-CL-CURRENT: 502/261; 502/258, 502/325, 502/332, 502/333, 502/334, 502/339

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 55. Document ID: US 4714692 A

L1: Entry 55 of 69 File: USPT Dec 22, 1987

US-PAT-NO: 4714692
DOCUMENT-IDENTIFIER: US 4714692 A

TITLE: Microemulsion impregnated catalyst composite and use thereof in a synthesis gas conversion process

DATE-ISSUED: December 22, 1987

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Abrevaya; Hayim	Chicago	IL		
Targos; William M.	Palatine	IL		

US-CL-CURRENT: 502/261; 427/217, 502/263, 502/300, 502/325, 502/332, 502/523, 516/21, 516/30, 518/715

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 56. Document ID: US 3943117 A

L1: Entry 56 of 69 File: USPT Mar 9, 1976

US-PAT-NO: 3943117
DOCUMENT-IDENTIFIER: US 3943117 A

TITLE: Process for improving tall oil pitch

DATE-ISSUED: March 9, 1976

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Force; Carlton G.	Mount Pleasant	SC		

US-CL-CURRENT: 530/231

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Drawi De

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☐ 57. Document ID: WO 3091159 A1

L1: Entry 57 of 69 File: EPAB Nov 6, 2003

PUB-NO: WO003091159A1
DOCUMENT-IDENTIFIER: WO 3091159 A1
TITLE: PREPARATION OF NANOSIZED COPPER (I) COMPOUNDS

PUBN-DATE: November 6, 2003

INVENTOR-INFORMATION:

NAME	COUNTRY
LEWIS, KENRICK M	
O'YOUNG, CHI-LIN	

INT-CL (IPC): C01 G 3/05; C01 C 3/08; C01 C 3/11; C01 G 3/00
EUR-CL (EPC): C01C003/08; C01C003/11, C01G003/00 , C01G003/05

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Drawi De

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☐ 58. Document ID: WO 3047494 A2

L1: Entry 58 of 69 File: EPAB Jun 12, 2003

PUB-NO: WO003047494A2
DOCUMENT-IDENTIFIER: WO 3047494 A2
TITLE: REVERSE MICELLE COMPOSITIONS AND USES THEREOF

PUBN-DATE: June 12, 2003

INVENTOR-INFORMATION:

NAME	COUNTRY
CONSTANTINIDES, PANOS P	US
LIANG, LIKAN	US
JANG, EUN-HYUN	US

INT-CL (IPC): A61 J 0/

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 59. Document ID: WO 3047493 A2

L1: Entry 59 of 69 File: EPAB Jun 12, 2003

PUB-NO: WO003047493A2
DOCUMENT-IDENTIFIER: WO 3047493 A2
TITLE: STABILIZED REVERSE MICELLE COMPOSITIONS AND USES THEREOF

PUBN-DATE: June 12, 2003

INVENTOR-INFORMATION:

NAME	COUNTRY
CONSTANTINIDES, PANOS P	US
LIANG, LIKAN	US
JANG, EUN-HYUN	US

INT-CL (IPC): A61 J 0/

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 60. Document ID: WO 9314022 A1

L1: Entry 60 of 69 File: EPAB Jul 22, 1993

PUB-NO: WO009314022A1
DOCUMENT-IDENTIFIER: WO 9314022 A1
TITLE: PROCESS OF FORMING METAL COMPOUNDS USING REVERSE MICELLE OR REVERSE MICROEMULSION SYSTEMS

PUBN-DATE: July 22, 1993

INVENTOR-INFORMATION:

NAME	COUNTRY
LINEHAN, JOHN C	US
FULTON, JOHN L	US
BEAN, ROGER M	US

US-CL-CURRENT: 423/561.1; 423/632, 423/633
INT-CL (IPC): C01B 13/32; C01G 49/06; C01G 49/12; C10G 1/08
EUR-CL (EPC): B01J019/00; C01B013/32, C01G049/06 , C01G049/12 , C10G001/08

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

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Terms	Documents
(reverse adj1 micelle$) same polar	69

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☐ 61. Document ID: AU 2002350317 A1, US 20030113366 A1, WO 2003051333 A1

Using default format because multiple data bases are involved.

L1: Entry 61 of 69 File: DWPI Jun 30, 2003

DERWENT-ACC-NO: 2003-670409
DERWENT-WEEK: 200420
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: Transmembrane delivery system for delivering one or more therapeutic agents to a subject in need, contains reverse micelle and polar agent of interest

INVENTOR: MACGREGOR, A

PRIORITY-DATA: 2001US-0024325 (December 14, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
AU 2002350317 A1	June 30, 2003		000	A61K009/107
US 20030113366 A1	June 19, 2003		016	A61K009/70
WO 2003051333 A1	June 26, 2003	E	000	A61K009/107

INT-CL (IPC): A61 K 9/107; A61 K 9/20; A61 K 9/200; A61 K 9/48; A61 K 9/70

☐ 62. Document ID: WO 200004139 A1, EP 1100889 A1

L1: Entry 62 of 69 File: DWPI Jan 27, 2000

DERWENT-ACC-NO: 2000-182414
DERWENT-WEEK: 200016
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TITLE: New complex for delivery to a cell useful for gene therapy, drug delivery and analytical methods comprises a nucleic acid inserted into a reverse micelle

INVENTOR: WOLFF, J A

PRIORITY-DATA: 1998US-093231P (July 17, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200004139 A1	January 27, 2000	E	043	C12N015/10

EP 1100889 A1	May 23, 2001	E	000	C12N015/10

INT-CL (IPC): C07 H 21/04; C12 N 15/10; C12 N 15/87; C12 N 15/88

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 63. Document ID: CN 1180102 A

L1: Entry 63 of 69 File: DWPI Apr 29, 1998

DERWENT-ACC-NO: 2002-383953
DERWENT-WEEK: 200242
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TITLE: Oxidase function compound sensitive film containing hydrophobic nanometre prill and its production

INVENTOR: JIANG, L; TANG, F

PRIORITY-DATA: 1997CN-0116989 (October 10, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
CN 1180102 A	April 29, 1998		000	C12M001/40

INT-CL (IPC): C12 M 1/40; C12 N 11/00; C12 Q 1/26; G01 N 27/327

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 64. Document ID: WO 9314022 A1, US 5770172 A

L1: Entry 64 of 69 File: DWPI Jul 22, 1993

DERWENT-ACC-NO: 1993-243067
DERWENT-WEEK: 199832
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: Prepn. of nanometre-sized metal cpds. used in prodn. of ideal-derived liquids - uses reverse micelle or reverse microemulsion systems with pptn. of metal cpd., cpd. used as catalyst with coal cpd. and hydrogen-donating source for prodn.. of coal-derived liquids

INVENTOR: BEAN, R M; FULTON, J L ; LINEHAN, J C

PRIORITY-DATA: 1992US-0821765 (January 15, 1992), 1994US-0310882 (September 22, 1994), 1996US-0725840 (October 4, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9314022 A1	July 22, 1993	E	026	C01B013/32
US 5770172 A	June 23, 1998		000	C01G049/02

INT-CL (IPC): C01 B 13/32; C01 G 49/02; C01 G 49/06; C01 G 49/08; C01 G 49/12; C10

G 1/08

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 65. Document ID: US 5059574 A

L1: Entry 65 of 69 File: DWPI Oct 22, 1991

DERWENT-ACC-NO: 1991-332519
DERWENT-WEEK: 199145
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: Catalyst for Fischer-tropsch synthesis of hydrocarbon(s) - comprises ruthenium of specified particle size and moderator e.g. silicon on inorganic oxide support

INVENTOR: ABREVAYA, H

PRIORITY-DATA: 1990US-0556247 (July 23, 1990), 1988US-0290398 (December 29, 1988)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 5059574 A	October 22, 1991		000	

INT-CL (IPC): B01J 21/02; B01J 23/62

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 66. Document ID: WO 8905336 A, EP 387307 A, EP 387307 A4, JP 2702579 B2, EP 387307 B1, DE 3856403 G

L1: Entry 66 of 69 File: DWPI Jun 15, 1989

DERWENT-ACC-NO: 1989-192686
DERWENT-WEEK: 200064
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: Reactions in reverse micelle and microemulsion systems - involves adding reactant to reverse system comprising polar fluid in non- or low-polar fluid in near critical or supercritical state

INVENTOR: BECKMAN, E J; FULTON, J L ; SMITH, R D ; CONSANI, K A ; MATSON, D W

PRIORITY-DATA: 1988WO-US04230 (November 23, 1988), 1987US-0125842 (November 24, 1987)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 8905336 A	June 15, 1989	E	018	
EP 387307 A	September 19, 1990		000	
EP 387307 A4	January 2, 1991		000	
JP 2702579 B2	January 21, 1998		006	B01J019/00
EP 387307 B1	April 12, 2000	E	000	C09K011/07

DE 3856403 G May 18, 2000 000 C09K011/07

INT-CL (IPC): B01 J 2/06; B01 J 19/00; C07 B 61/00; C08 F 2/48; C08 G 77/02; C09 K 11/07

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 67. Document ID: WO 8904858 A

L1: Entry 67 of 69 File: DWPI Jun 1, 1989

DERWENT-ACC-NO: 1989-178380
DERWENT-WEEK: 198924
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: Pressure-responsive reverse micelle or microemulsion system - comprises polar fluid, surfactant and non-polar or low-polarity fluid continuous phase comprising gas in near-critical state

INVENTOR: FULTON, J L; SMITH, R D

PRIORITY-DATA: 1988WO-US04171 (November 22, 1988), 1987US-0125842 (November 24, 1987)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 8904858 A	June 1, 1989	E	073	

INT-CL (IPC): C09K 11/07

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 68. Document ID: WO 8904844 A, CA 1337750 C, EP 343233 A, US 4933404 A, EP 387307 A, EP 395714 A, JP 03503023 W, JP 03503180 W, US 5158704 A, US 5238671 A, US 5266205 A, EP 343233 B1, DE 3887681 G, CA 1333316 C, EP 343233 A4, EP 387307 A4, EP 395714 A4, CA 1337235 C

L1: Entry 68 of 69 File: DWPI Jun 1, 1989

DERWENT-ACC-NO: 1989-178370
DERWENT-WEEK: 199612
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: Microemulsion polymerisation of monomer in polar fluid phase - emulsified with gas at density above its cloud point

INVENTOR: BECKMAN, E J; FULTON, J L ; SMITH, R D ; CONSANI, K A ; MATSON, D W

PRIORITY-DATA: 1988US-0152256 (February 4, 1988), 1987US-0125842 (November 27, 1987), 1988US-0274596 (November 22, 1988), 1990US-0559396 (July 25, 1990), 1988US-0274558 (November 22, 1988), 1992US-0907177 (July 1, 1992)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 8904844 A	June 1, 1989	E	039	
CA 1337750 C	December 19, 1995		000	B01J013/00
EP 343233 A	November 29, 1989	E	000	
US 4933404 A	June 12, 1990		000	
EP 387307 A	September 19, 1990		000	
EP 395714 A	November 7, 1990		000	
JP 03503023 W	July 11, 1991		000	
JP 03503180 W	July 18, 1991		000	
US 5158704 A	October 27, 1992		036	B01J013/00
US 5238671 A	August 24, 1993		006	C01B007/00
US 5266205 A	November 30, 1993		036	B01D015/00
EP 343233 B1	February 2, 1994	E	041	C09K011/07
DE 3887681 G	March 17, 1994		000	C09K011/07
CA 1333316 C	November 29, 1994		000	C08F002/14
EP 343233 A4	February 28, 1990		000	
EP 387307 A4	January 2, 1991		000	
EP 395714 A4	January 9, 1991		000	
CA 1337235 C	October 10, 1995		000	B01J013/00

395714 A4 INT-CL (IPC): B01D 15/00; B01D 17/00; B01J 2/06; B01J 13/00; C01B 7/00; C02F 1/28; C07B 61/00; C08F 2/14; C08F 2/32; C08F 2/48; C08G 77/02; C09K 11/07

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 69. Document ID: US 4608347 A

L1: Entry 69 of 69 File: DWPI Aug 26, 1986

DERWENT-ACC-NO: 1986-245420
DERWENT-WEEK: 198637
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: Clarifying turbid aq. samples contg. lipid - by adding organic soln. of zwitterionic surfactant to form reverse micelles, without denaturing water soluble analyte(s)

PRIORITY-DATA: 1982US-0368593 (April 15, 1982)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 4608347 A	August 26, 1986		006	

INT-CL (IPC): B01F 17/00; G01N 1/00

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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Terms	Documents
(reverse adj1 micelle$) same polar	69

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L1: Entry 67 of 69 File: DWPI Jun 1, 1989

DERWENT-ACC-NO: 1989-178380
DERWENT-WEEK: 198924

TITLE: Pressure-responsive reverse micelle or microemulsion system - comprises polar fluid, surfactant and non-polar or low-polarity fluid continuous phase comprising gas in near-critical state

INVENTOR: FULTON, J L; SMITH, R D

PRIORITY-DATA: 1988WO-US04171 (November 22, 1988), 1987US-0125842 (November 24, 1987)

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PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
☐	WO 8904858 A	June 1, 1989	E	073	

INT-CL (IPC): C09K 11/07

ABSTRACTED-PUB-NO: US 5158704A
BASIC-ABSTRACT:

Pressure-responsive reverse micelle or microemulsion system comprises (a) a polar fluid, (b) a nonpolar or low-polarity fluid that is a gas at STP and has a critical density (Dc) and a critical temp (Tc), and (c) surfactant(s). The system comprises reverse micellas, each comprising a dynamic aggregate of surfactant molecules surrounding a core of polar fluid, dispersed in the nonpolar/low-polarity fluid continuous phase. The temp and pressure are such that the density of (b) exceeds its Dc and the temp is in the range Tc to (Tc-90) deg C, as that (b) is in a near-critical state.

USE/ADVANTAGE - Useful in chromatography, for protein sepn or extn, as a chemical reaction medium, for dispersing polar catalysts or enzymes to provide a new class of gas phse reaction etc. The systems give faster sepn, extn and reaction rates because of the enhanced mass transport properties of supercritical and near-critical fluids, in which diffusivities of solutes and micelles can be 5-100 times higher than in liqs. Selectivities and rates may be varied by varying the pressure. Prods and catalysts are easily recovered by changing the density by adjusting temp or pressure. The supercritical/near-critical fluids can be used under pressure at temps which are safe for thermally-sensitive biological cpds, and are thus useful for extn of e.g. haemoglobin, myoglobin and cytochrome C using density control, without loss of activity or denaturing of the proteins. The enhanced diffusion rates of the micelles in the fluid may be of use in the liquefaction of coal.

ABSTRACTED-PUB-NO:

WO 8904858A
EQUIVALENT-ABSTRACTS:

Pressure responsive reverse micelle or microemulsion system comprises: (a) a polar fluid; (b) a second fluid that is a gas at standard temp. and pressure and has a critical density; (c) at least one surfactant capable of forming reverse micelles; (a),(b) and (c) being intermixed to form a reverse micelle system having a continuous phase defined in a second fluid and reverse micelles each comprising a dynamic aggregate of surfactant molecules surrounding a core of the polar fluid, dispersed in the continuous phase. The mixt. of (a), (b), and (c) being at a press. and temp. so that the density of second fluid exceeds the critical density of the mixt.

USE/ADVANTAGE - The reverse micelle systems have faster sepn., extraction and reaction rates, they are able to manipulate reaction pathways or rate by varying steam pressure and they are able to control selectivity of sepn. etc.

ABSTRACTED-PUB-NO: US 5158704A
EQUIVALENT-ABSTRACTS: Pressure responsive reverse micelle or microemulsion system comprises: (a) a polar fluid; (b) a second fluid that is a gas at standard temp. and pressure and has a critical density; (c) at least one surfactant capable of forming reverse micelles; (a),(b) and (c) being intermixed to form a reverse micelle system having a continuous phase defined in a second fluid and reverse micelles each comprising a dynamic aggregate of surfactant molecules surrounding a core of the polar fluid, dispersed in the continuous phase. The mixt. of (a), (b), and (c) being at a press. and temp. so that the density of second fluid exceeds the critical density of the mixt. USE/ADVANTAGE - The reverse micelle systems have faster sepn., extraction and reaction rates, they are able to manipulate reaction pathways or rate by varying steam pressure and they are able to control selectivity of sepn. etc. WO 8904858A

CHOSEN-DRAWING: Dwg.0/22 Dwg.0/22

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L3: Entry 2 of 2 File: USPT Sep 11, 2001

DOCUMENT-IDENTIFIER: US 6288130 B1
TITLE: Oil-free glycerophospholipid formulations and method for the production thereof

Brief Summary Text (8):
The physiological importance of glycerophospholipids, and especially of phosphatidyl choline, as a component of biological membranes has been known for a long time. In the wake of numerous scientific studies in which lecithin was proved to have various beneficial effects in the human body, lecithins have been developed over the past few years which are intended especially as dietary supplements or as so-called nutraceuticals for a health-conscious consumer segment. In many cases lecithin fractions are used which have been enriched with certain glycerophospholipids, eg, fractions containing an elevated phosphatidyl choline content, which can be prepared, eg, by means of solvent extraction with ethanol. These products are usually offered in the form of powders, granules or tablets. In the production of lecithin-containing beverages, however, the limited solubility or dispersibility of the glycerophospholipids in water often constitutes a limitation, which is why, from a technical point of view, the production of oil-free lecithins with improved solubility or dispersibility in water is desirable. In the pharmaceuticals industry, due to traditionally good experience, use is made predominantly of lecithins obtained from eggs, and sometimes also of soya-based lecithins enriched with phosphatidyl choline. Besides peroral dosage forms, these lecithins are available in forms for intravenous administration, eg, as parenteral fat emulsions. On account of the high natural phosphatidyl choline content, fat-free egg-based lecithins are particularly suitable for drug formulations in reverse micelles (so-called liposomes). The range of applications of lecithins used pharmaceutically could also be enlarged if their solubility or dispersibility in water were improved.

WEST Search History

Free Items | Results | Clear | Cancel

DATE: Wednesday, June 09, 2004

Hide?	Set Name	Query	Hit Count
	DB=USPT,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR		
☐	L3	(reverse adj1 micelle$) same tablet	2
☐	L2	L1 and (tablet$)	1
☐	L1	(reverse adj1 micelle$) same polar	69

END OF SEARCH HISTORY

L4: Entry 26 of 30 File: USPT Sep 19, 1995

DOCUMENT-IDENTIFIER: US 5451569 A
TITLE: Pulmonary drug delivery system

Brief Summary Text (4):
There are a number of known routes for the delivery of drugs into the human or animal body. Notable among these are intravenous injections and oral delivery systems, for example tablets, capsules or orally taken liquids.

Brief Summary Text (7):
Oral delivery systems, eg tablets and capsules, are far more convenient but not all drugs can be given orally. Some drugs may not be properly absorbed through the stomach wall, others may irritate the stomach causing an unwanted side effect. Other drugs may be degraded by the gastronintestinal tract. For example, protein-based drugs, such as insulin for the treatment of diabetes, cannot be given orally since they would be degraded by proteolytic enzymes and must be given by injection.

CLAIMS:

1. A pharmaceutical composition for the therapeutic systemic non-pulmonary treatment of humans or animals, comprising an effective amount of a pharmaceutically active agent mixed directly with pulmonary surfactant, said pharmaceutically active agent not being encapsulated in a liposome or a reverse micelle.

8. A method for the manufacture of a pharmaceutical composition for the systemic non-pulmonary treatment of humans or animals, comprising mixing directly an effective amount of a pharmaceutically active agent with a pulmonary surfactant, said pharmaceutically active agent not being encapsulated in a liposome or a reverse micelle.

14. A method for the therapeutic systemic non-pulmonary treatment of humans or animals comprising the pulmonary delivery of an effective amount of a pharmaceutically active agent mixed directly with a pulmonary surfactant, said pharmaceutically active agent not being encapsulated in a liposome or a reverse micelle.

21. A method for the therapeutic treatment of diabetes mellitus comprising the pulmonary delivery of a pharmaceutical composition comprising an effective amount of insulin mixed with natural lung surfactant, said insulin not being encapsulated in a liposome or a reverse micelle.

L6: Entry 12 of 34 File: USPT Nov 13, 2001

DOCUMENT-IDENTIFIER: US 6316497 B1
TITLE: Self-emulsifying systems containing anticancer medicament

Detailed Description Text (16):
The presence of water in the self-emulsifying system will form reverse micelles with surfactants, for example Tween 80 or Capmul MCM. The core of the micelle consists of an aqueous or hydrophilic micro-phase. hydrophilic impurities will be solubilized or partitioned into the reversed micelles in formulation, thereby minimizing the degradation of the o-(chloroacetylcarbamoyl)fumigillol. The formation of reversed micelles in the self-emulsifying system protects the drug from degradation or stabilizes the drug in the macroscopically homogeneous SES solution.

Detailed Description Text (19):
Suitable adsorbents or complex forming agents are selected from the group consisting of gelatin, active charcoal, silica gel, and chelating agents. The pharmaceutically acceptable carrier having the medicament can be filled, mixed, adsorbed, filtered or otherwise combined, contacted, or reacted with the adsorbent or complex forming agent. Exemplary chelating agents are chelates and/or salts of ethylenediaminetetraacetic acid (EDTA). Preferably, the adsorbent is a gelatin, which can be shaped as a capsule, shell, pod, caplet or any other suitable form for containing a liquid self-emulsifying system. The gelatin form can be a hard or soft gelatin capsule.

Detailed Description Text (30):
In another aspect of the invention, the present invention relates to a method of suppressing cell proliferation and neovascularization comprising administering a formulation having the above stabilized self-emulsifying system. The stabilized self-emulsifying system suitable for an intended mode of administration, such as topical, parenteral, or oral, e.g. in the form of capsule fillings. The term "parenteral" as used herein refers to modes of administration, which include intravenous, intramuscular, intraperitoneal, intracisternal, subcutaneous and intraarticular injection and infusion.

Detailed Description Text (36):
Example 1b: To a base formulation of Labrasol, Miglyol 812, and Lauroglycol FCC was added o-(chloroacetylcarbamoyl)fumigillol until the drug was completely dissolved to obtain a composition having final concentrations of 20% Labrasol, 20% Miglyol 812, 50% Lauroglycol FCC, and 10% medicament wt./wt. based on the total weight of the formulation. The solution was filled into a 200 mg airfill softgell capsule.

Detailed Description Text (37):
Example 1c: To a base formulation of Miglyol 840, Lauroglycol FCC and Tween 80 was added o-(chloroacetylcarbamoyl)fumigillol until the drug was completely dissolved to obtain a composition having final concentrations of 42.5% of Miglyol 840, 42.5% of Lauroglycol FCC, 5% of Tween 80, and 10% of the medicament wt./wt. based on the total weight of the formulation. The solution was filled into a 50 mg airfill softgell capsule shell.

Detailed Description Text (49):

To prepare the formulation with gelatin, an opening was formed in the tip of a gelatin capsule and the preparation was injected into the capsule using a Ilamilton gastight teflon glass syringe. Sealing the opening with heat and pinching contained the formulation in the capsule.

Detailed Description Text (50):
The amounts of medicament remaining in the prepared formulation and in the filled capsule were measured. Measurements were taken tinder separate reaction condition at 50.degree. C. and 80.degree. C., respectively. Results of these tests shown below in Table 4 describe the percentage of medicament remaining in the formulation with and without gelatin relative to each set of reaction conditions. The data obtained showed that the gelatin produced a good stabilizing effect on self-emulsifying drug formulations.

Detailed Description Text (67):
The tip an airfill softgell capsule shell was snipped off and an agitated solution of formula (I) (0.8 mL) was filled into the capsule. The neck of the capsule shell was heated using a heat gun and then immediately sealed by pinching the opening with forceps.

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L6: Entry 31 of 34 File: USPT Sep 19, 1995

DOCUMENT-IDENTIFIER: US 5451569 A
TITLE: Pulmonary drug delivery system

Brief Summary Text (4):
There are a number of known routes for the delivery of drugs into the human or animal body. Notable among these are intravenous injections and oral delivery systems, for example tablets, capsules or orally taken liquids.

Brief Summary Text (7):
Oral delivery systems, eg tablets and capsules, are far more convenient but not all drugs can be given orally. Some drugs may not be properly absorbed through the stomach wall, others may irritate the stomach causing an unwanted side effect. Other drugs may be degraded by the gastronintestinal tract. For example, protein-based drugs, such as insulin for the treatment of diabetes, cannot be given orally since they would be degraded by proteolytic enzymes and must be given by injection.

CLAIMS:

1. A pharmaceutical composition for the therapeutic systemic non-pulmonary treatment of humans or animals, comprising an effective amount of a pharmaceutically active agent mixed directly with pulmonary surfactant, said pharmaceutically active agent not being encapsulated in a liposome or a reverse micelle.

8. A method for the manufacture of a pharmaceutical composition for the systemic non-pulmonary treatment of humans or animals, comprising mixing directly an effective amount of a pharmaceutically active agent with a pulmonary surfactant, said pharmaceutically active agent not being encapsulated in a liposome or a reverse micelle.

14. A method for the therapeutic systemic non-pulmonary treatment of humans or animals comprising the pulmonary delivery of an effective amount of a pharmaceutically active agent mixed directly with a pulmonary surfactant, said pharmaceutically active agent not being encapsulated in a liposome or a reverse micelle.

21. A method for the therapeutic treatment of diabetes mellitus comprising the pulmonary delivery of a pharmaceutical composition comprising an effective amount of insulin mixed with natural lung surfactant, said insulin not being encapsulated in a liposome or a reverse micelle.